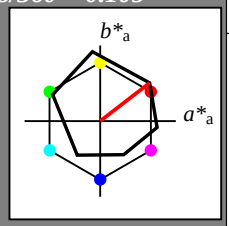
Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
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*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

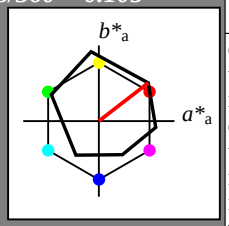
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

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N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
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%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

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*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
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***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
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*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
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*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
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*lab*lab*	0.193	0.396	0.306
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*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

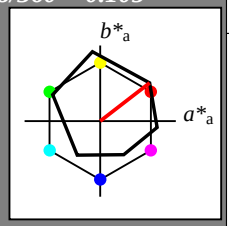
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
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***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

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*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
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***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
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*lab*ncE*	0.0	0.5	r19j

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*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
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*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
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*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

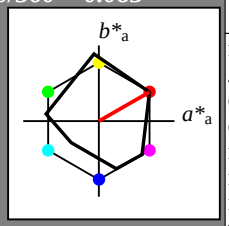
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

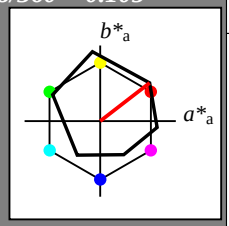
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

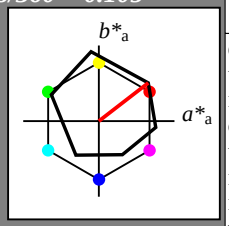
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
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*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

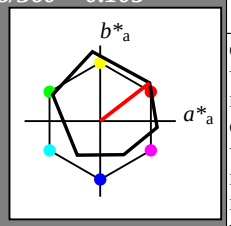
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

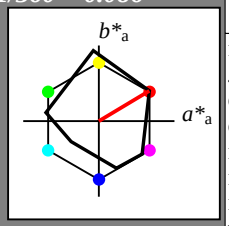
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

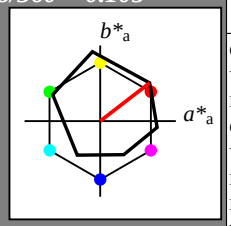
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

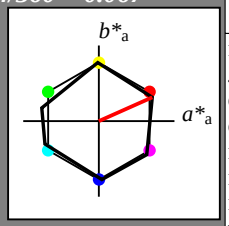
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

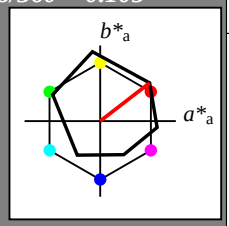
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

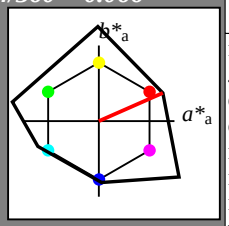
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

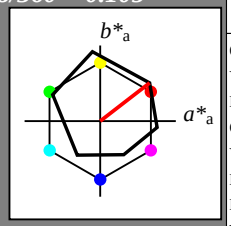
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

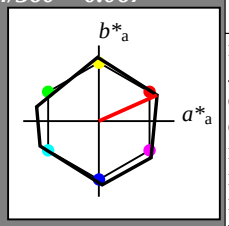
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

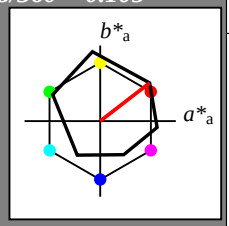
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

***n** = 0,00**

blackness *n**

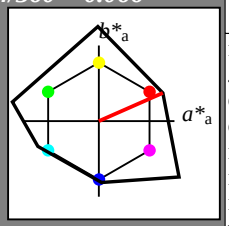
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

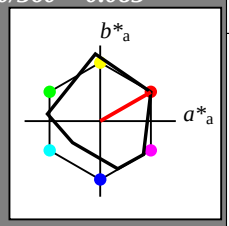
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

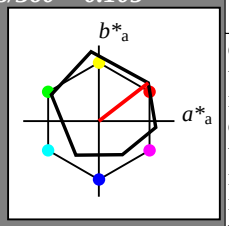
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

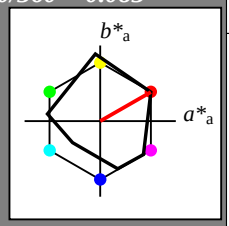
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

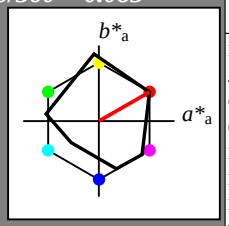
TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

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*lab*lab*	0.204	0.434	0.249
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*lab*nch*	0.5	0.5	0.083

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*lab*lrj*	0.204	0.496	0.06
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*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

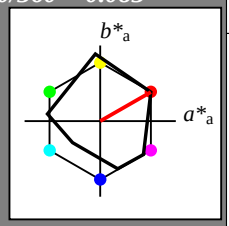
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

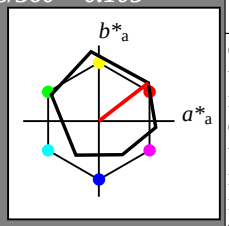
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

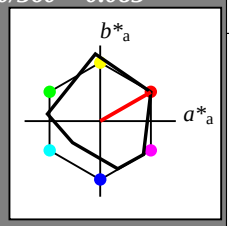
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

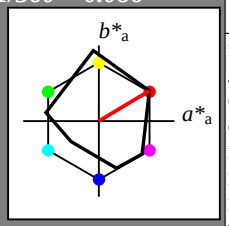
$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

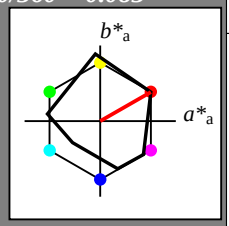
TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

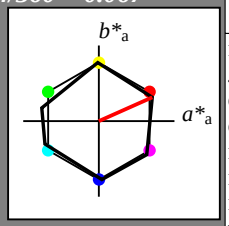
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

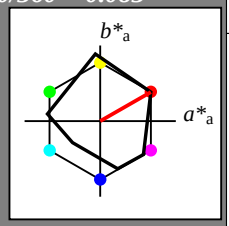
TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

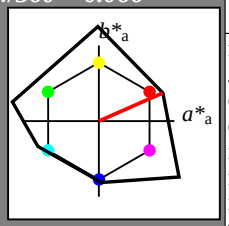
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

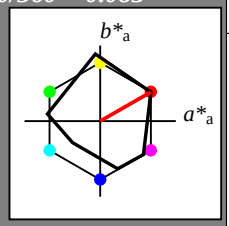
TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

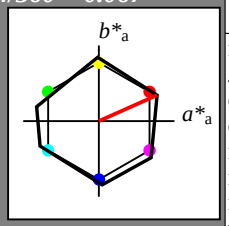
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

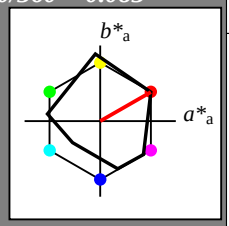
TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

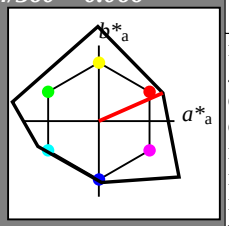
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

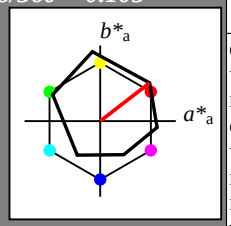
TE100−7, 3 step scales for constant CIELAB hue 30/360 = 0.083 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

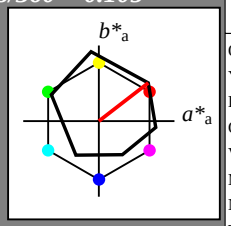
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

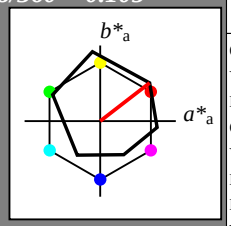
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

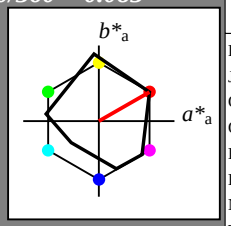
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

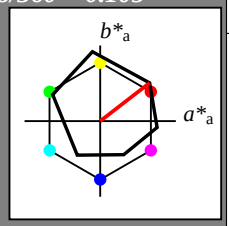
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

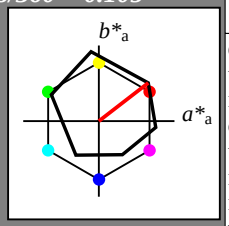
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

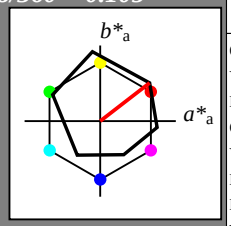
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

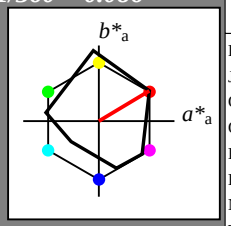
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

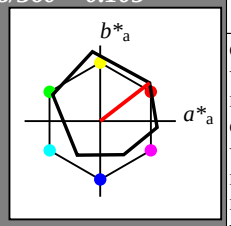
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

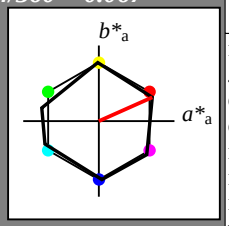
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

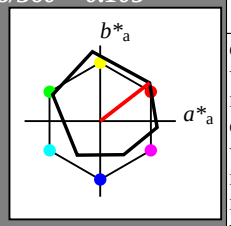
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

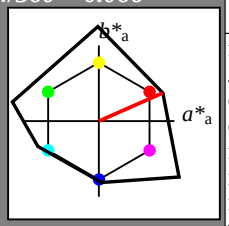
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

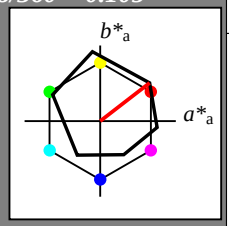
TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

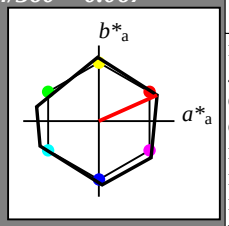
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

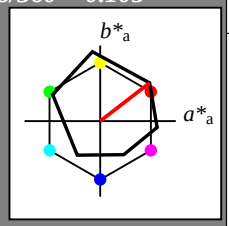
3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

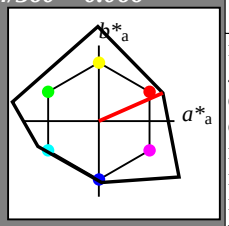
*n** = 1,0

Output: Colorimetric Reflective System NCS11

for hue *h** = *lab*h* = 24/360 = 0.066
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 38/360 = 0.105 (left)

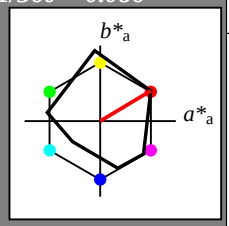
3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 31/360 = 0.086
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

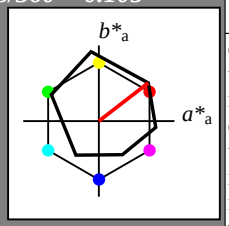
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

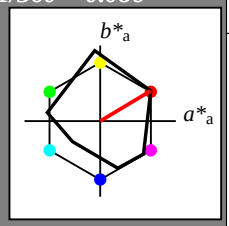
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

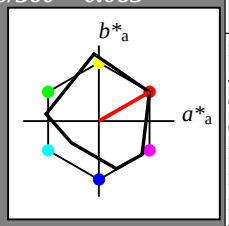
$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

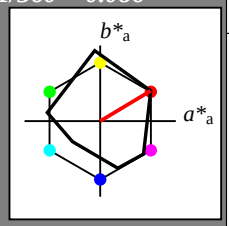
TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

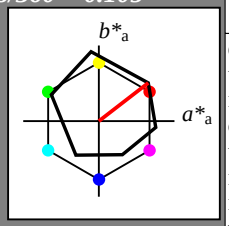
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

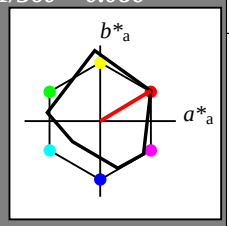
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

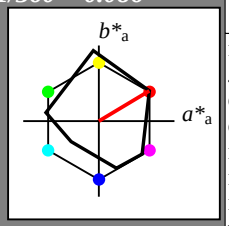
TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

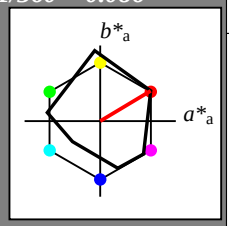
3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h* = lab*h = 31/360 = 0.086*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

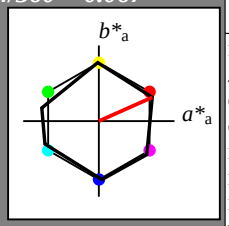
chromaticness ***c****

Output: Colorimetric Reflective System NRS18

for hue *h* = lab*h = 24/360 = 0.067*
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

***n** = 0,00**

blackness ***n****

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness ***c****

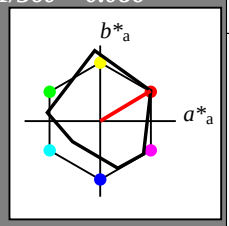
TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

***n** = 0,00**

blackness *n**

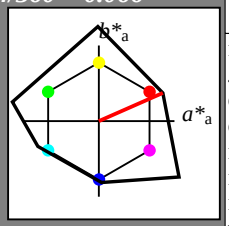
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

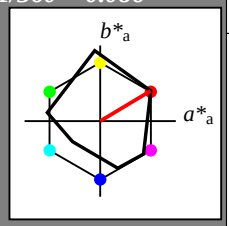
TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

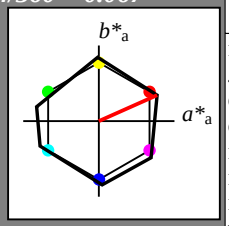
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

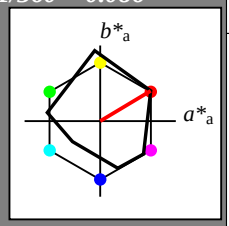
3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

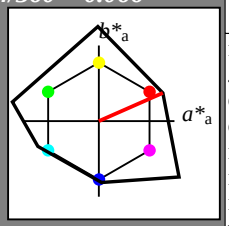
$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS11

for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

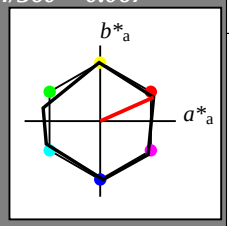
TE100−7, 3 step scales for constant CIELAB hue 31/360 = 0.086 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

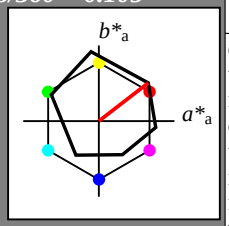
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

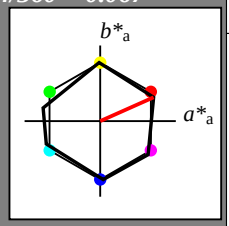
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

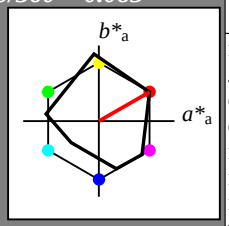
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 30/360 = 0.083**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

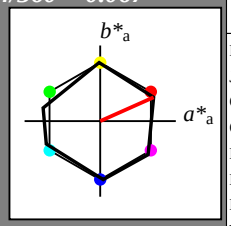
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

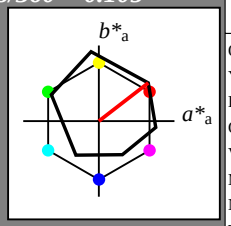
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

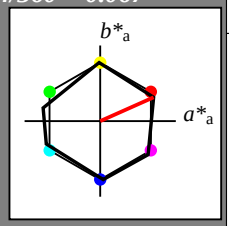
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

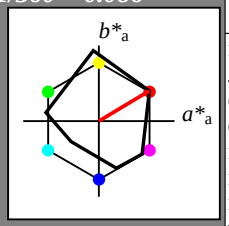
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

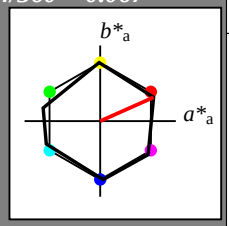
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

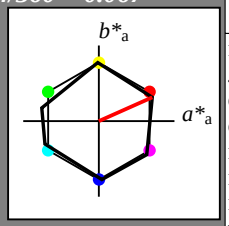
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

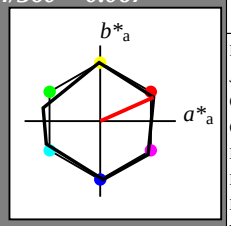
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

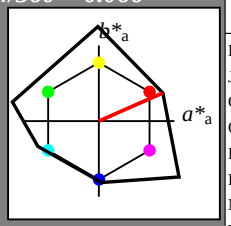
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

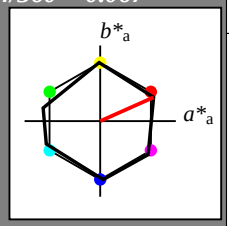
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

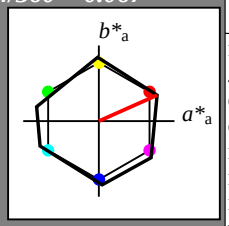
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

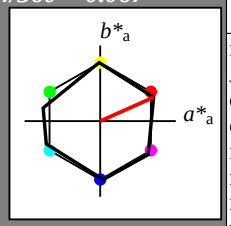
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

***n** = 0,00**

blackness *n**

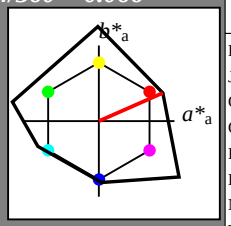
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

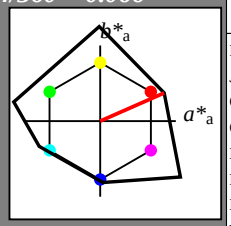
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

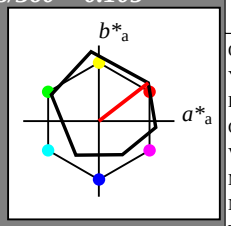
chromaticness c^*

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

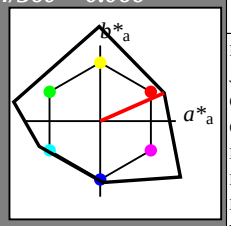
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NCS18

for hue *h** = *lab*h* = 24/360 = 0.066
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.29	25.34	117.07	167
G50BMa	59.47	−80.61	−33.45	87.29	203
BMa	49.01	3.63	−81.2	81.29	273
B50RMa	44.06	106.07	−73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

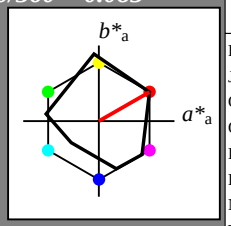
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

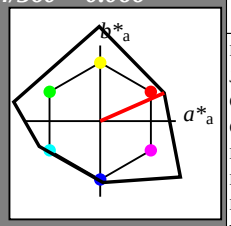
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

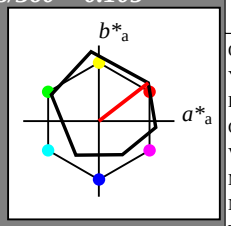
chromaticness c^*

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

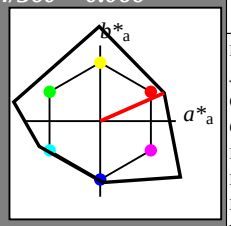
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NCS18

for hue *h** = *lab*h* = 24/360 = 0.066
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.29	25.34	117.07	167
G50BMa	59.47	−80.61	−33.45	87.29	203
BMa	49.01	3.63	−81.2	81.29	273
B50RMa	44.06	106.07	−73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

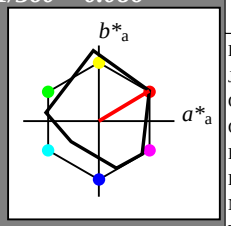
chromaticness c^*

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 31/360 = 0.086
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

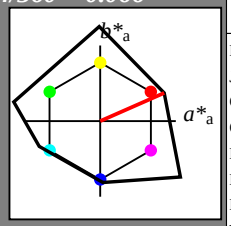
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

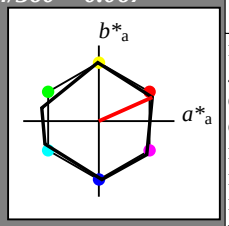
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

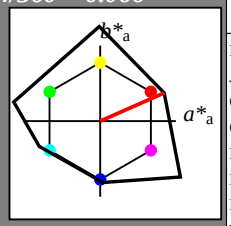
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

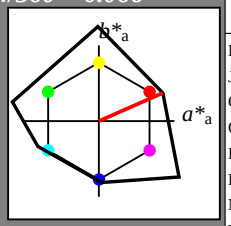
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

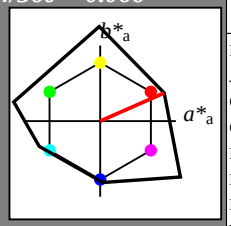
*n** = 1,0

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

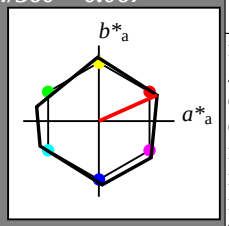
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

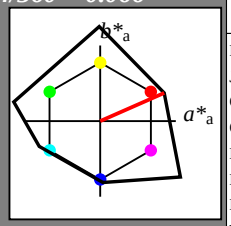
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

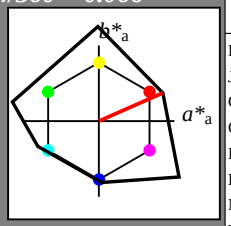
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

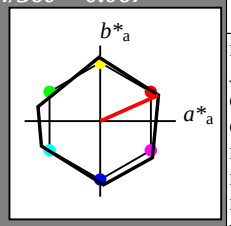
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

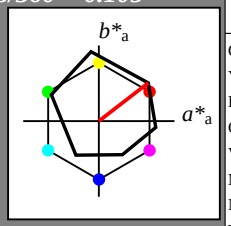
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

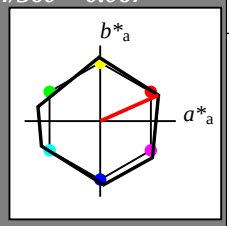
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 24/360 = 0.067
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

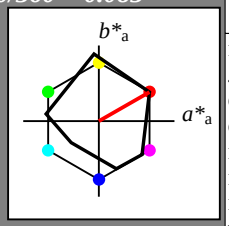
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

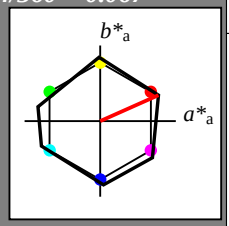
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

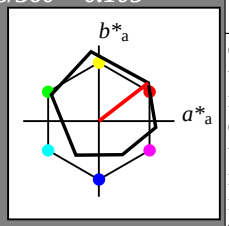
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

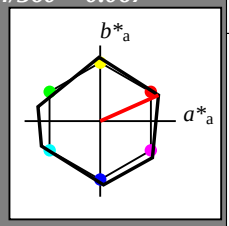
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

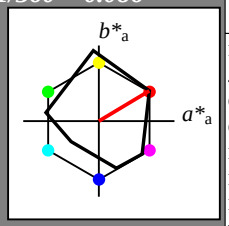
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

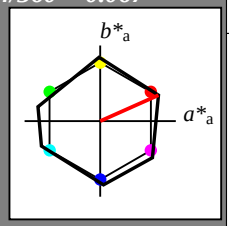
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

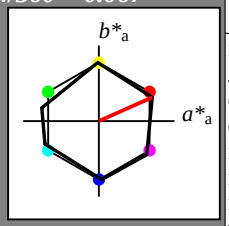
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

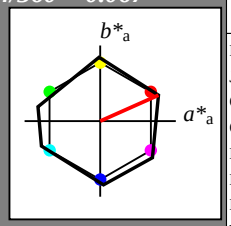
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

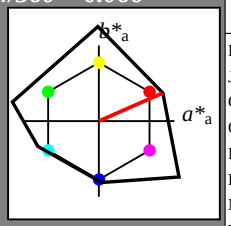
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

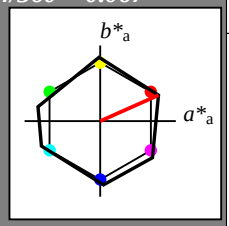
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

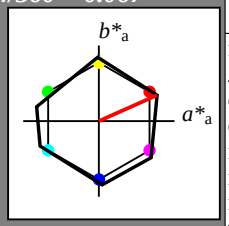
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

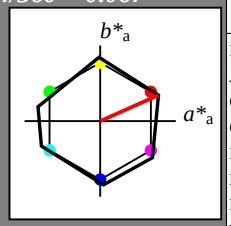
*n** = 1,0

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

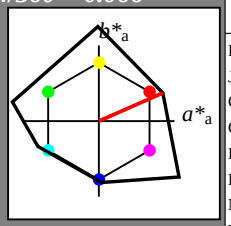
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

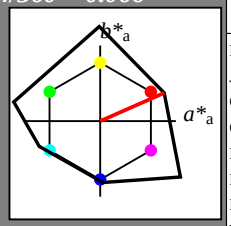
3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NCS11

for hue *h** = *lab*h* = 24/360 = 0.066
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

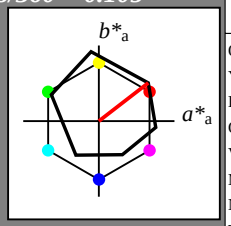
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 38/360 = 0.105
*lab*tch* and *lab*nch*

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

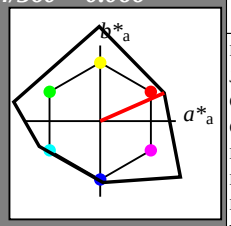
3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NCS11

for hue *h** = *lab*h* = 24/360 = 0.066
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

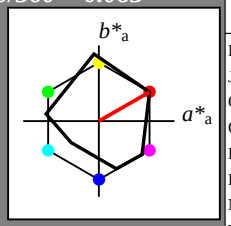
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 30/360 = 0.083
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 50 77 30
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	32.93	22.4
*LAB*LABa*	72.52	33.47	19.18
*LAB*TCHa*	75.0	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.704	0.434	0.249
*lab*tch*	0.75	0.5	0.083
*lab*nch*	0.0	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.06
*lab*tce*	0.75	0.5	0.019
*lab*ncE*	0.0	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.67	19.79
*LAB*LABa*	33.82	33.47	19.18
*LAB*TCHa*	25.01	38.58	29.82

relative* CIELAB *lab*

*lab*lab*	0.204	0.434	0.249
*lab*tch*	0.25	0.5	0.083
*lab*nch*	0.5	0.5	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.06
*lab*tce*	0.25	0.5	0.019
*lab*ncE*	0.5	0.5	r07j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.95	38.36
*LAB*TCHa*	50.0	77.16	29.82

relative* CIELAB *lab*

*lab*lab*	0.409	0.867	0.497
*lab*tch*	0.5	1.0	0.083
*lab*nch*	0.0	1.0	0.083

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.993	0.119
*lab*tce*	0.5	1.0	0.019
*lab*ncE*	0.0	1.0	r07j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

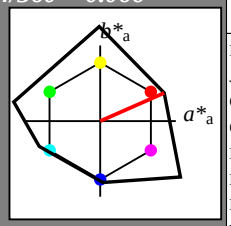
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

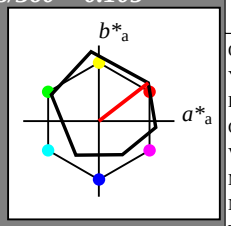
chromaticness c^*

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 38/360 = 0.105**
lab*tch* and *lab*nch

D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.67	32.15	28.41
*LAB*LABa*	71.67	32.68	25.25
*LAB*TCHa*	75.0	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.693	0.396	0.306
*lab*tch*	0.75	0.5	0.105
*lab*nch*	0.0	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.693	0.477	0.15
*lab*tce*	0.75	0.5	0.048
*lab*ncE*	0.0	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.98	32.9	25.8
*LAB*LABa*	32.98	32.68	25.25
*LAB*TCHa*	25.01	41.3	37.7

relative* CIELAB *lab*

*lab*lab*	0.193	0.396	0.306
*lab*tch*	0.25	0.5	0.105
*lab*nch*	0.5	0.5	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.193	0.477	0.15
*lab*tce*	0.25	0.5	0.048
*lab*ncE*	0.5	0.5	r19j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.95	65.29	52.06
*LAB*LABa*	47.95	65.36	50.51
*LAB*TCHa*	50.0	82.6	37.7

relative* CIELAB *lab*

*lab*lab*	0.387	0.791	0.611
*lab*tch*	0.5	1.0	0.105
*lab*nch*	0.0	1.0	0.105

***relative* Natural Colour (NC)**

*lab*lrj*	0.387	0.954	0.299
*lab*tce*	0.5	1.0	0.048
*lab*ncE*	0.0	1.0	r19j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

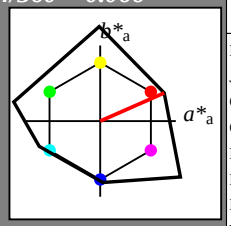
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 38/360 = 0.105 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

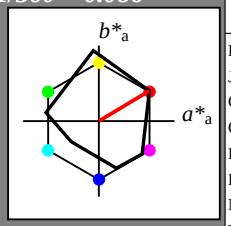
*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 31/360 = 0.086**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 50 78 31
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.52	33.43	20.01
*LAB*LABa*	72.52	33.39	20.01
*LAB*TCHa*	75.0	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.704	0.429	0.257
*lab*tch*	0.75	0.5	0.086
*lab*nch*	0.0	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.704	0.496	0.064
*lab*tce*	0.75	0.5	0.02
*lab*ncE*	0.0	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.82	33.47	20.03
*LAB*LABa*	33.82	33.39	20.01
*LAB*TCHa*	25.01	38.93	30.93

relative* CIELAB *lab*

*lab*lab*	0.204	0.429	0.257
*lab*tch*	0.25	0.5	0.086
*lab*nch*	0.5	0.5	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.204	0.496	0.064
*lab*tce*	0.25	0.5	0.02
*lab*ncE*	0.5	0.5	r08j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.63	66.84	40.03
*LAB*LABa*	49.63	66.78	40.02
*LAB*TCHa*	50.0	77.85	30.93

relative* CIELAB *lab*

*lab*lab*	0.409	0.858	0.514
*lab*tch*	0.5	1.0	0.086
*lab*nch*	0.0	1.0	0.086

***relative* Natural Colour (NC)**

*lab*lrj*	0.409	0.992	0.128
*lab*tce*	0.5	1.0	0.02
*lab*ncE*	0.0	1.0	r08j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

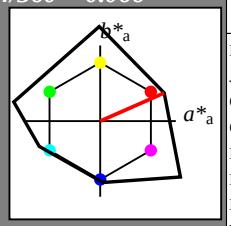
3 step scales for constant CIELAB hue 31/360 = 0.086 (right)

Input: Colorimetric Reflective System NCS11

for hue *h** = *lab*h* = 24/360 = 0.066
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 149
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

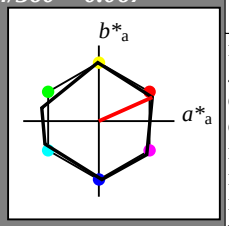
*n** = 1,0

Output: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 24/360 = 0.067
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 77 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 100
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	35.35	15.74
*LAB*LABa*	76.05	35.32	15.73
*LAB*TCHa*	75.0	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	35.4	15.75
*LAB*LABa*	37.36	35.32	15.73
*LAB*TCHa*	25.01	38.67	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	70.69	31.48
*LAB*LABa*	56.7	70.64	31.46
*LAB*TCHa*	50.0	77.33	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

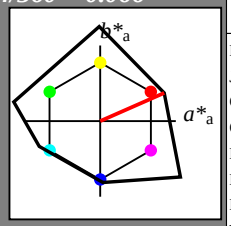
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

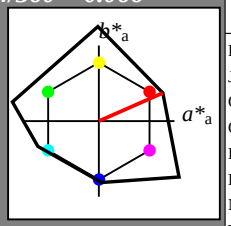
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.688	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.688	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.58	42.39	18.64
*LAB*LABa*	32.58	42.31	18.62
*LAB*TCHa*	25.01	46.22	23.75

relative* CIELAB *lab*

*lab*lab*	0.188	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.188	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.61	37.24
*LAB*TCHa*	50.0	92.44	23.75

relative* CIELAB *lab*

*lab*lab*	0.376	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.376	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

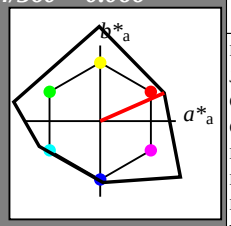
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

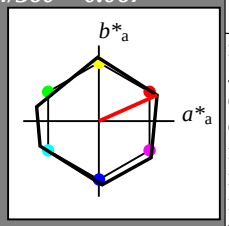
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 24/360 = 0.067**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	38.55	17.16
*LAB*LABa*	74.3	38.52	17.16
*LAB*TCHa*	75.0	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.75	0.457	0.203
*lab*tch*	0.75	0.5	0.067
*lab*nch*	0.0	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	−0.009
*lab*tce*	0.75	0.5	0.997
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	38.58	17.17
*LAB*LABa*	32.1	38.52	17.16
*LAB*TCHa*	25.01	42.17	24.01

relative* CIELAB *lab*

*lab*lab*	0.25	0.457	0.203
*lab*tch*	0.25	0.5	0.067
*lab*nch*	0.5	0.5	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	−0.009
*lab*tce*	0.25	0.5	0.997
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	77.09	34.32
*LAB*LABa*	53.2	77.04	34.31
*LAB*TCHa*	50.0	84.34	24.01

relative* CIELAB *lab*

*lab*lab*	0.5	0.913	0.407
*lab*tch*	0.5	1.0	0.067
*lab*nch*	0.0	1.0	0.067

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	−0.019
*lab*tce*	0.5	1.0	0.997
*lab*ncE*	0.0	1.0	b98r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

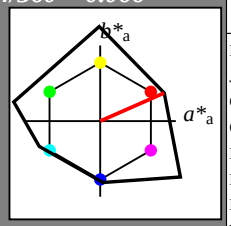
TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

3 step scales for constant CIELAB hue 24/360 = 0.067 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

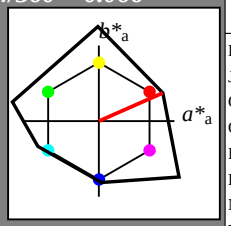
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 24/360 = 0.066**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 47 92 24
olv*Ma: 1.0 0.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.5	(1.0)
*cmyn3**	0.0	0.5	0.5	(0.0)
*olvi4**	1.0	0.5	0.5	1.0
*cmyn4**	0.0	0.5	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.27	42.34	18.63
*LAB*LABa*	71.27	42.31	18.62
*LAB*TCHa*	75.0	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.714	0.458	0.201
*lab*tch*	0.75	0.5	0.066
*lab*nch*	0.0	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.714	0.5	−0.011
*lab*tce*	0.75	0.5	0.996
*lab*ncE*	0.0	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.0	(1.0)
*cmyn3**	0.5	1.0	1.0	(0.0)
*olvi4**	1.0	0.5	0.5	0.5
*cmyn4**	0.0	0.5	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.07	42.38	18.64
*LAB*LABa*	29.07	42.31	18.62
*LAB*TCHa*	25.01	46.23	23.75

relative* CIELAB *lab*

*lab*lab*	0.214	0.458	0.201
*lab*tch*	0.25	0.5	0.066
*lab*nch*	0.5	0.5	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.214	0.5	−0.011
*lab*tce*	0.25	0.5	0.996
*lab*ncE*	0.5	0.5	b98r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	1.0
*cmyn4**	0.0	1.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	47.15	84.68	37.26
*LAB*LABa*	47.15	84.63	37.24
*LAB*TCHa*	50.0	92.46	23.75

relative* CIELAB *lab*

*lab*lab*	0.428	0.915	0.403
*lab*tch*	0.5	1.0	0.066
*lab*nch*	0.0	1.0	0.066

***relative* Natural Colour (NC)**

*lab*lrj*	0.428	1.0	−0.023
*lab*tce*	0.5	1.0	0.996
*lab*ncE*	0.0	1.0	b98r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

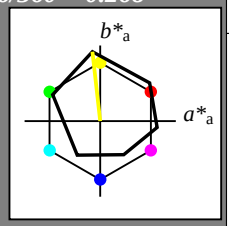
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 24/360 = 0.066 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

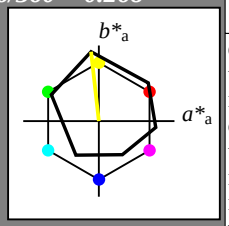
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
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*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

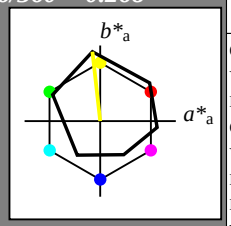
*n** = 1,0

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

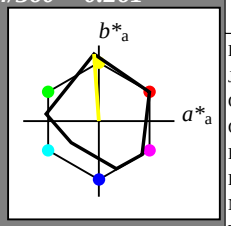
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

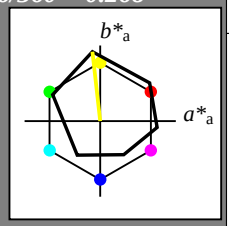
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

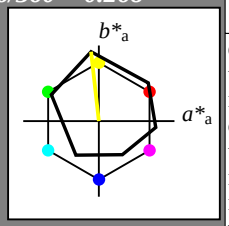
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

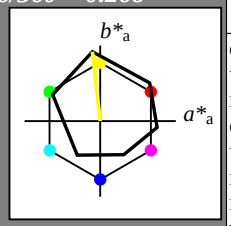
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

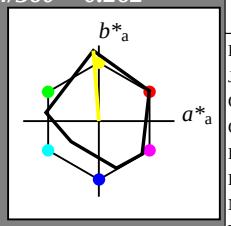
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 94/360 = 0.262
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

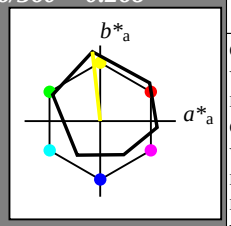
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

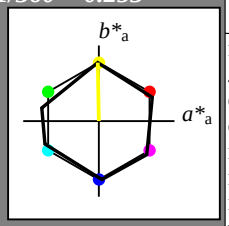
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

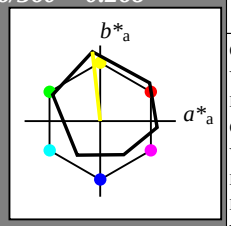
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

***n** = 0,00**

blackness *n**

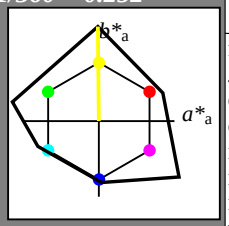
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

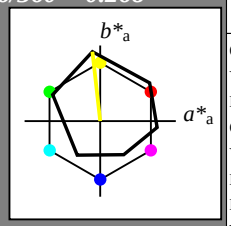
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

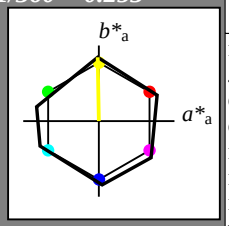
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

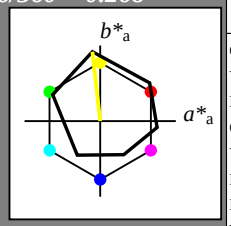
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

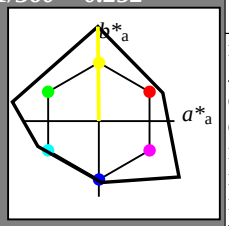
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

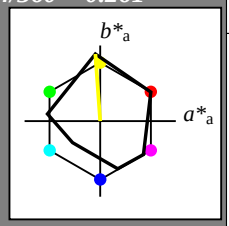
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

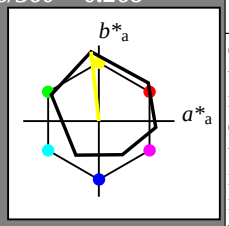
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

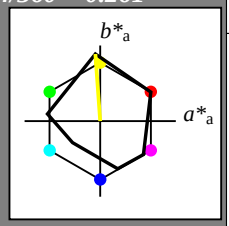
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

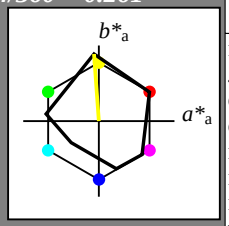
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

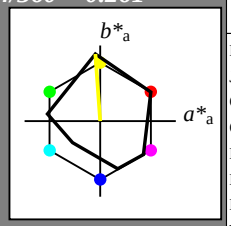
*n** = 1,0

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

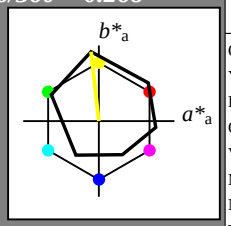
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

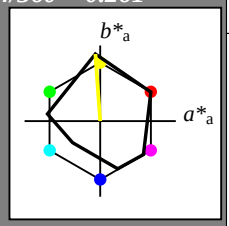
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

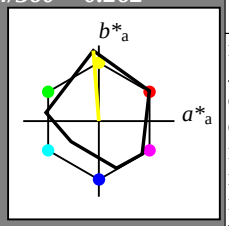
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

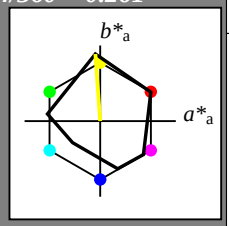
3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

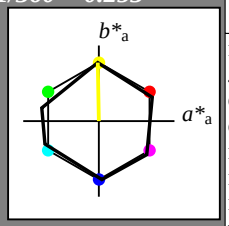
*n** = 1,0

Output: Colorimetric Reflective System NRS18

for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

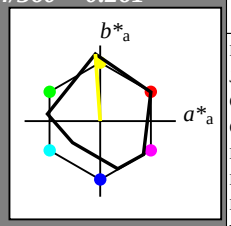
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

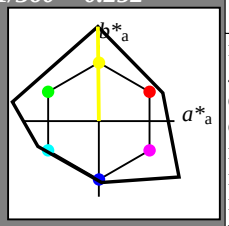
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

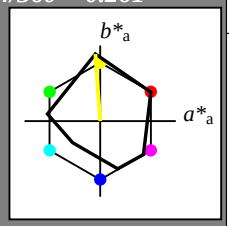
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

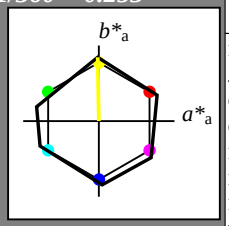
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

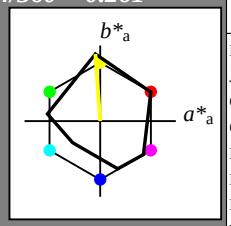
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

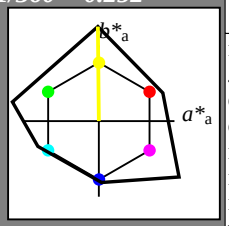
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

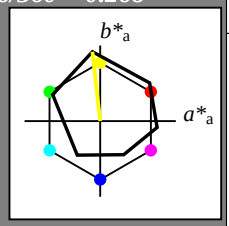
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

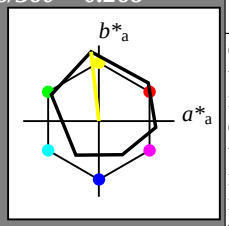
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

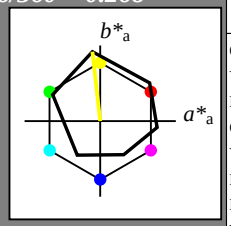
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

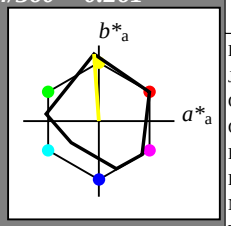
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 94/360 = 0.261
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

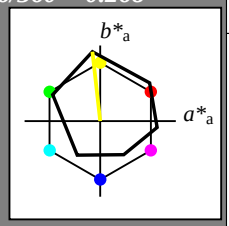
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

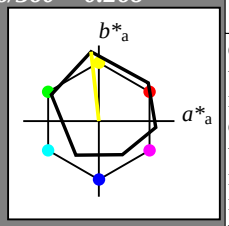
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

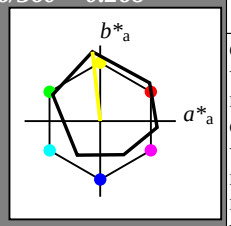
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 1,0

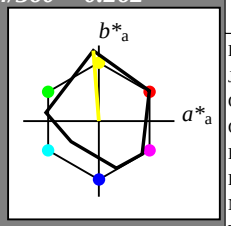
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

*n** = 1,0

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

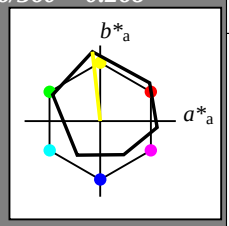
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

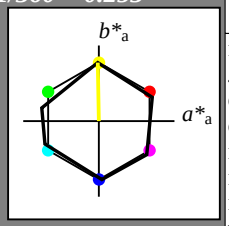
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

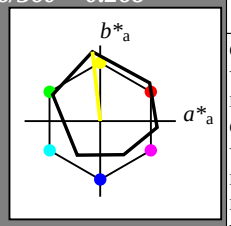
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

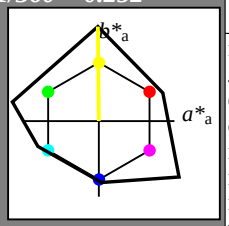
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

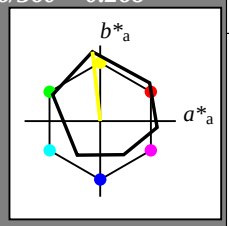
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

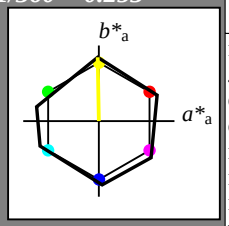
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

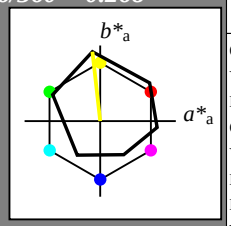
TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

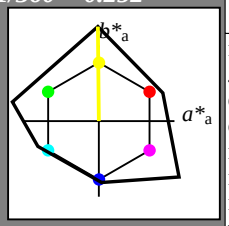
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

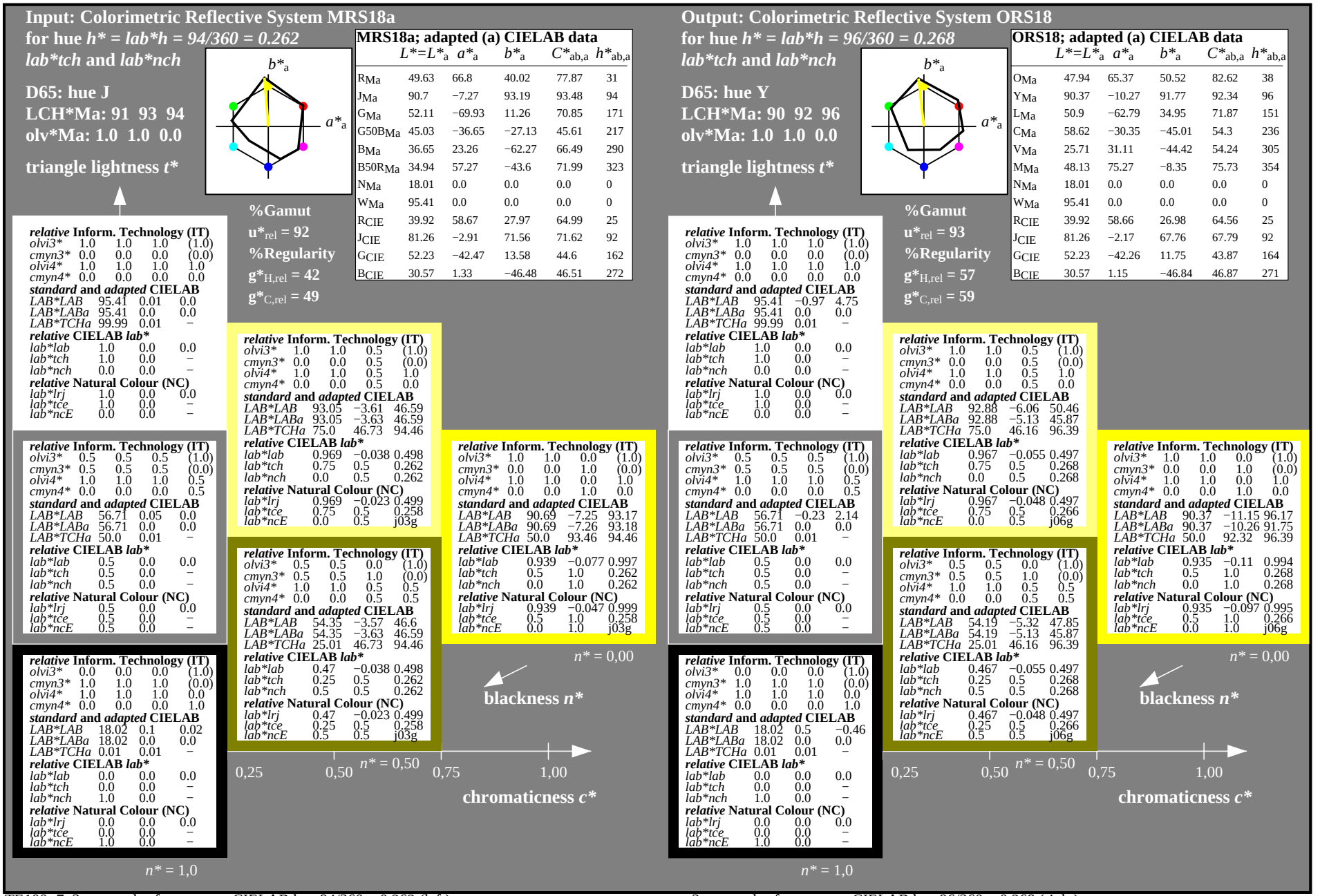
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)



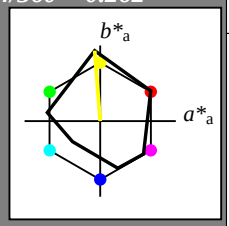
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

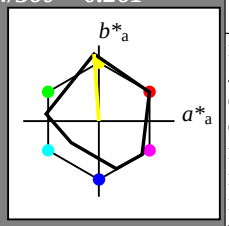
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

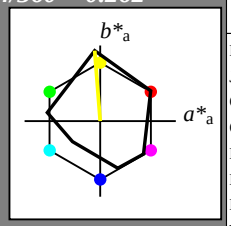
3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 94/360 = 0.262
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

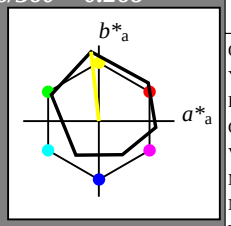
*n** = 1,0

Output: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 96/360 = 0.268
*lab*tch* and *lab*nch*

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

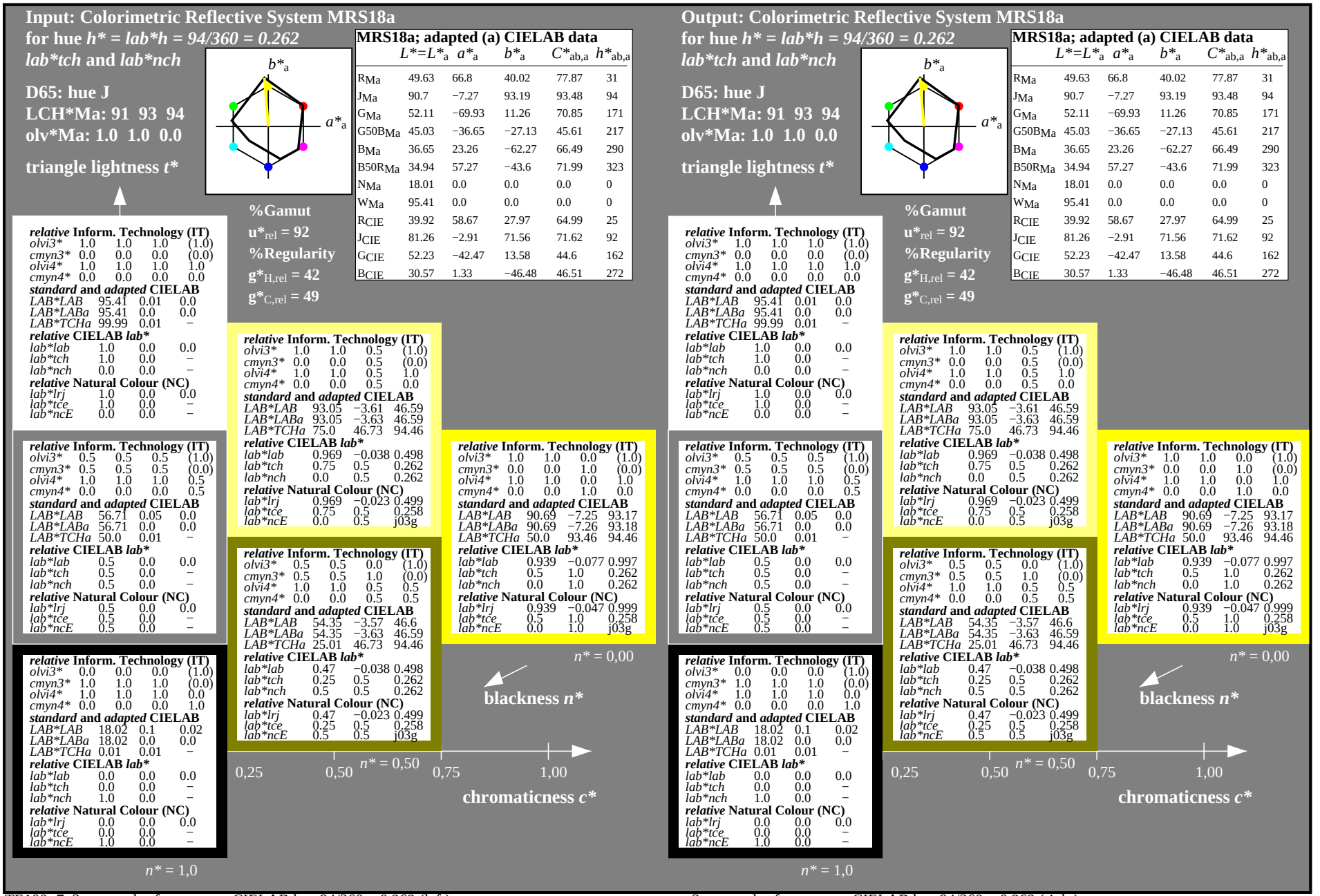
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)



TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

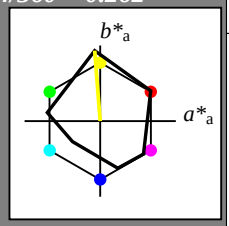
3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 94/360 = 0.262
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

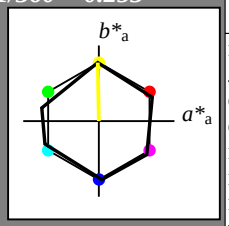
*n** = 1,0

Output: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 91/360 = 0.253
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

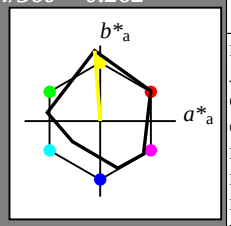
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

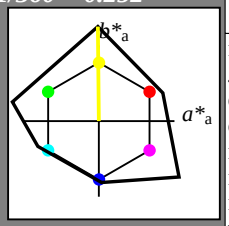
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

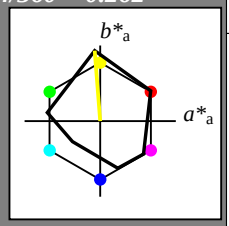
3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

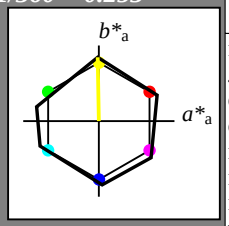
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

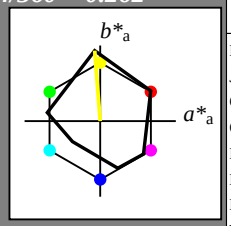
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

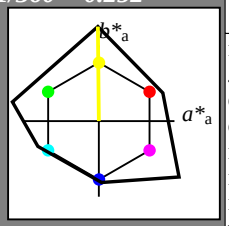
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

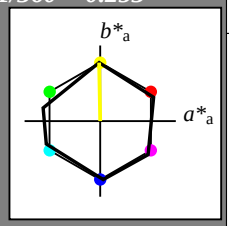
TE100−7, 3 step scales for constant CIELAB hue 94/360 = 0.262 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

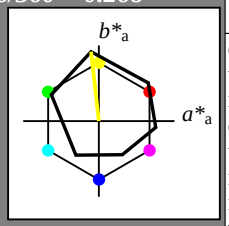
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

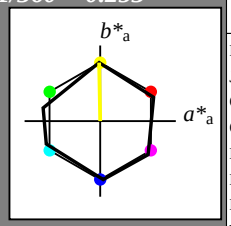
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

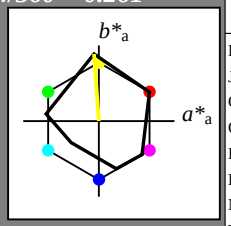
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

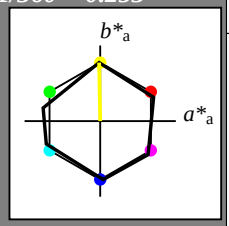
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

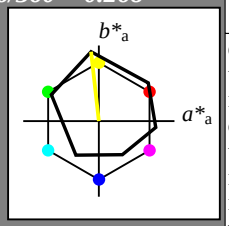
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

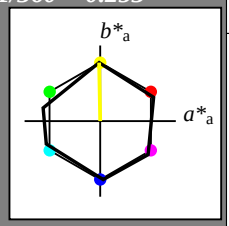
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

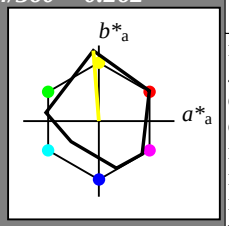
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

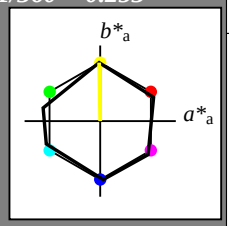
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

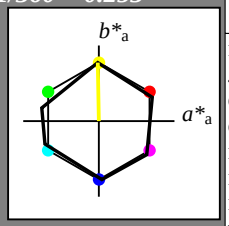
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

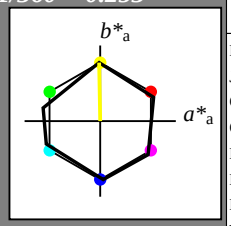
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

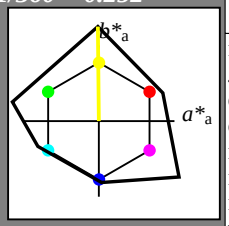
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

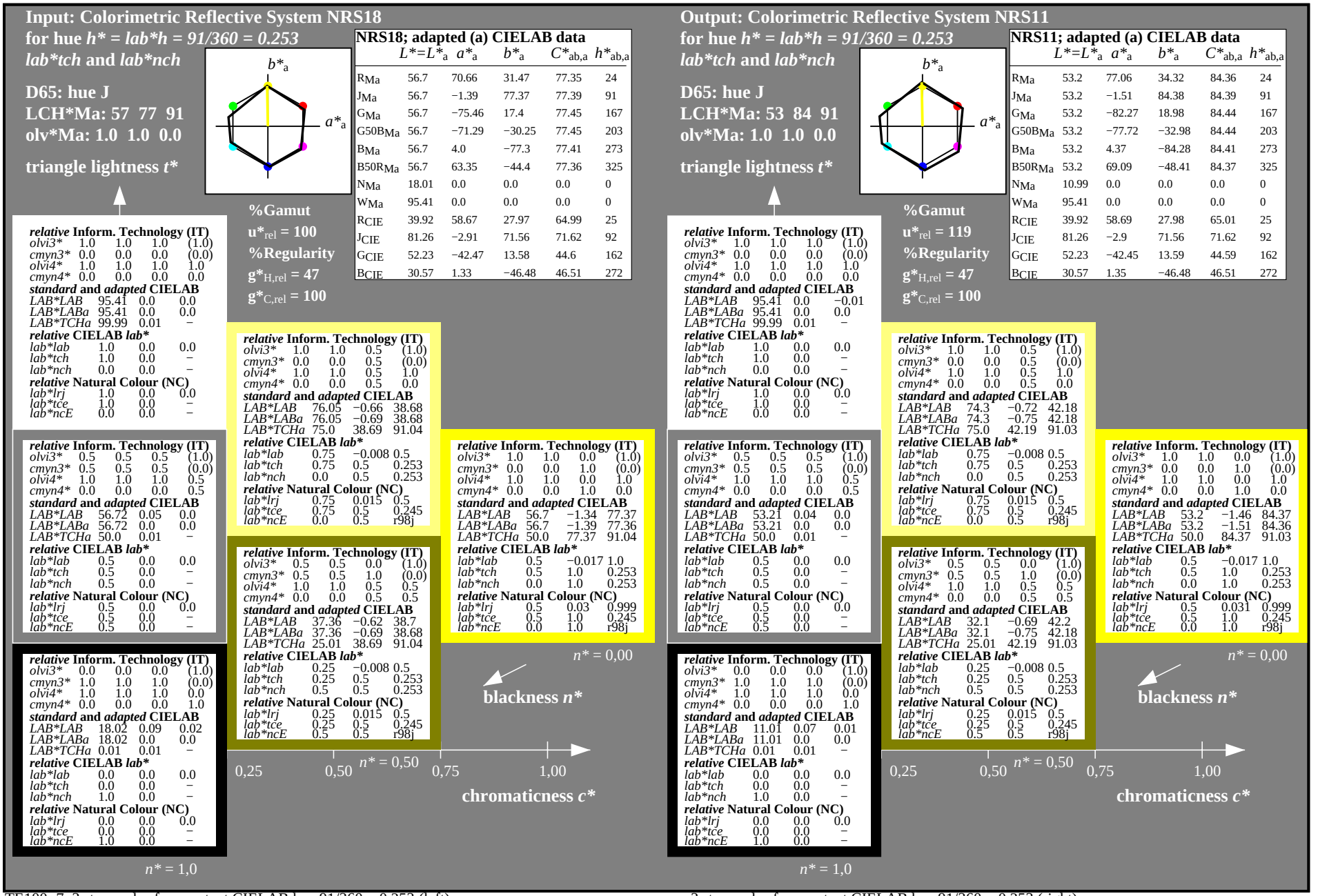
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)



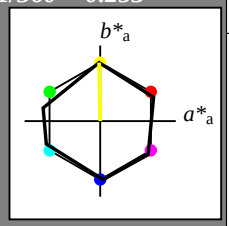
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

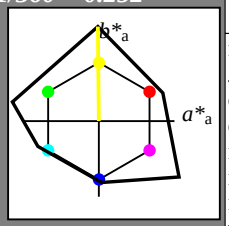
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

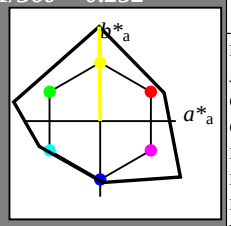
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

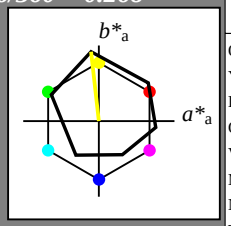
*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

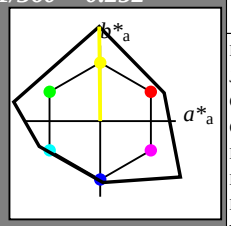
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

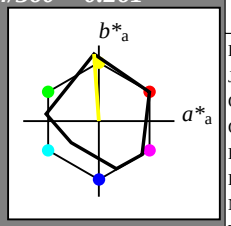
*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

n^* = 0,00
blackness *n**
0,25 0,50 n^* = 0,50 0,75 1,00
chromaticness *c**
n^* = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

n^* = 0,00
blackness *n**
0,25 0,50 n^* = 0,50 0,75 1,00
chromaticness *c**
n^* = 1,0

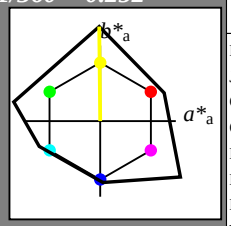
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

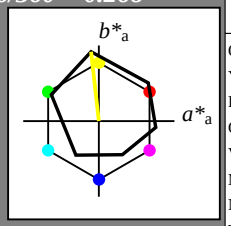
*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

n^* = 0,00
blackness n^*
0,25 0,50 n^* = 0,50 0,75 1,00
chromaticness c^*
n^* = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

n^* = 0,00
blackness n^*
0,25 0,50 n^* = 0,50 0,75 1,00
chromaticness c^*
n^* = 1,0

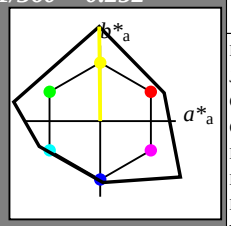
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

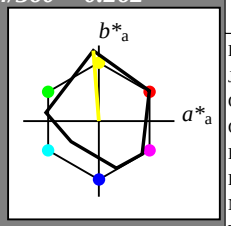
*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

n^* = 0,00
blackness *n**
0,25 0,50 n^* = 0,50 0,75 1,00
chromaticness *c**
n^* = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

n^* = 0,00
blackness *n**
0,25 0,50 n^* = 0,50 0,75 1,00
chromaticness *c**
n^* = 1,0

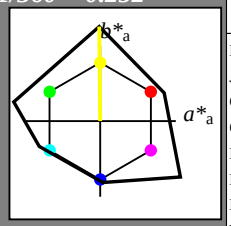
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

n^* = 0,00

blackness *n**

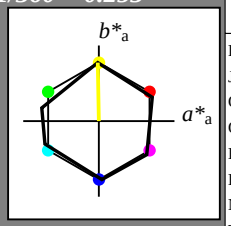
0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

n^* = 0,00

blackness *n**

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness *c**

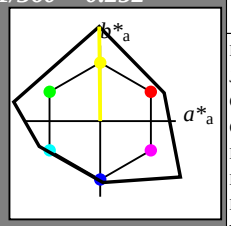
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

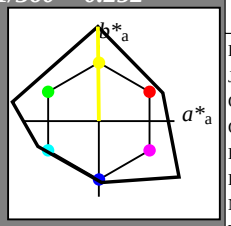
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

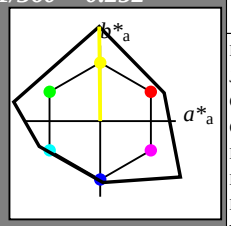
*n** = 1,0

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

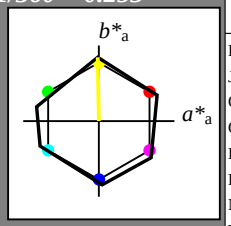
*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

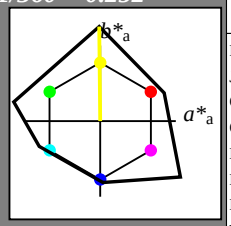
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

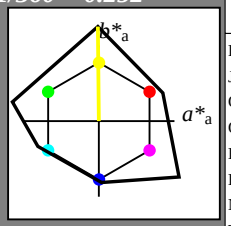
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

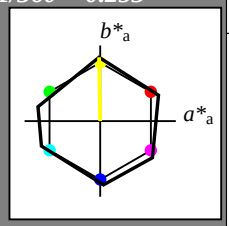
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

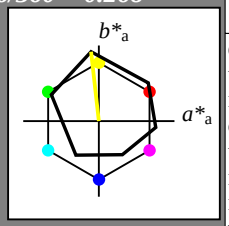
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

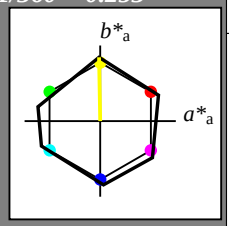
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

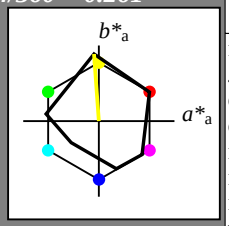
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

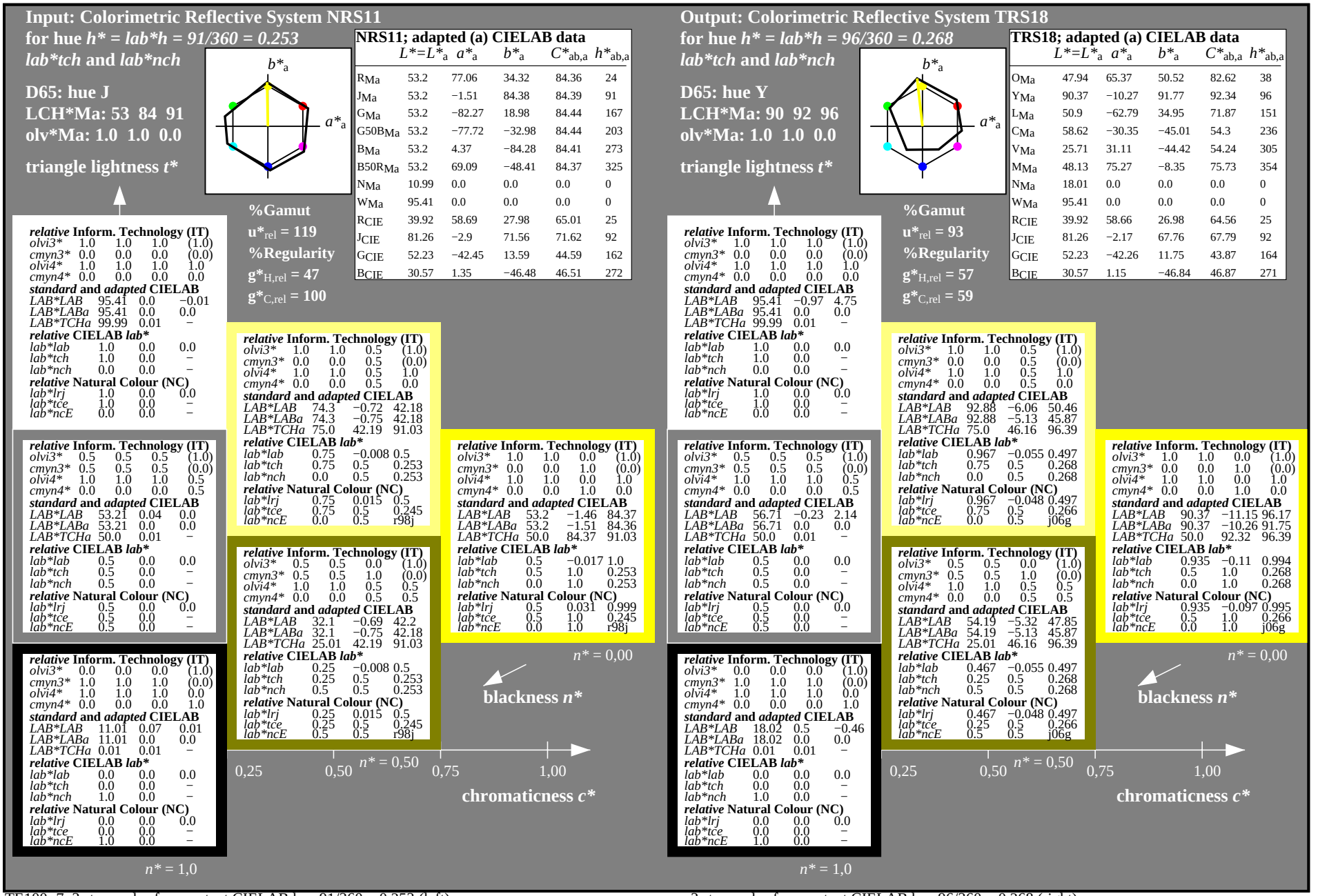
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)



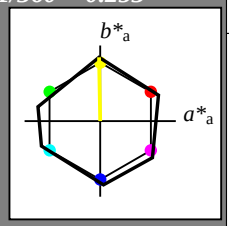
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

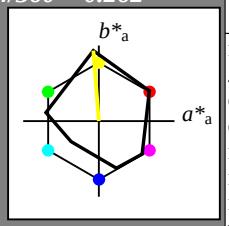
*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

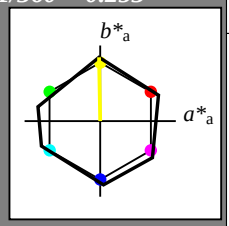
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

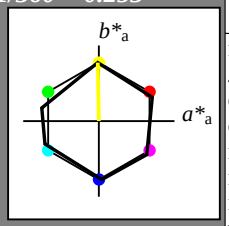
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

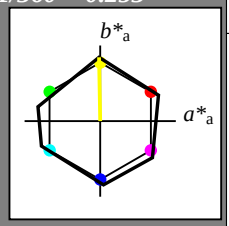
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

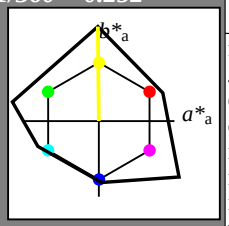
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

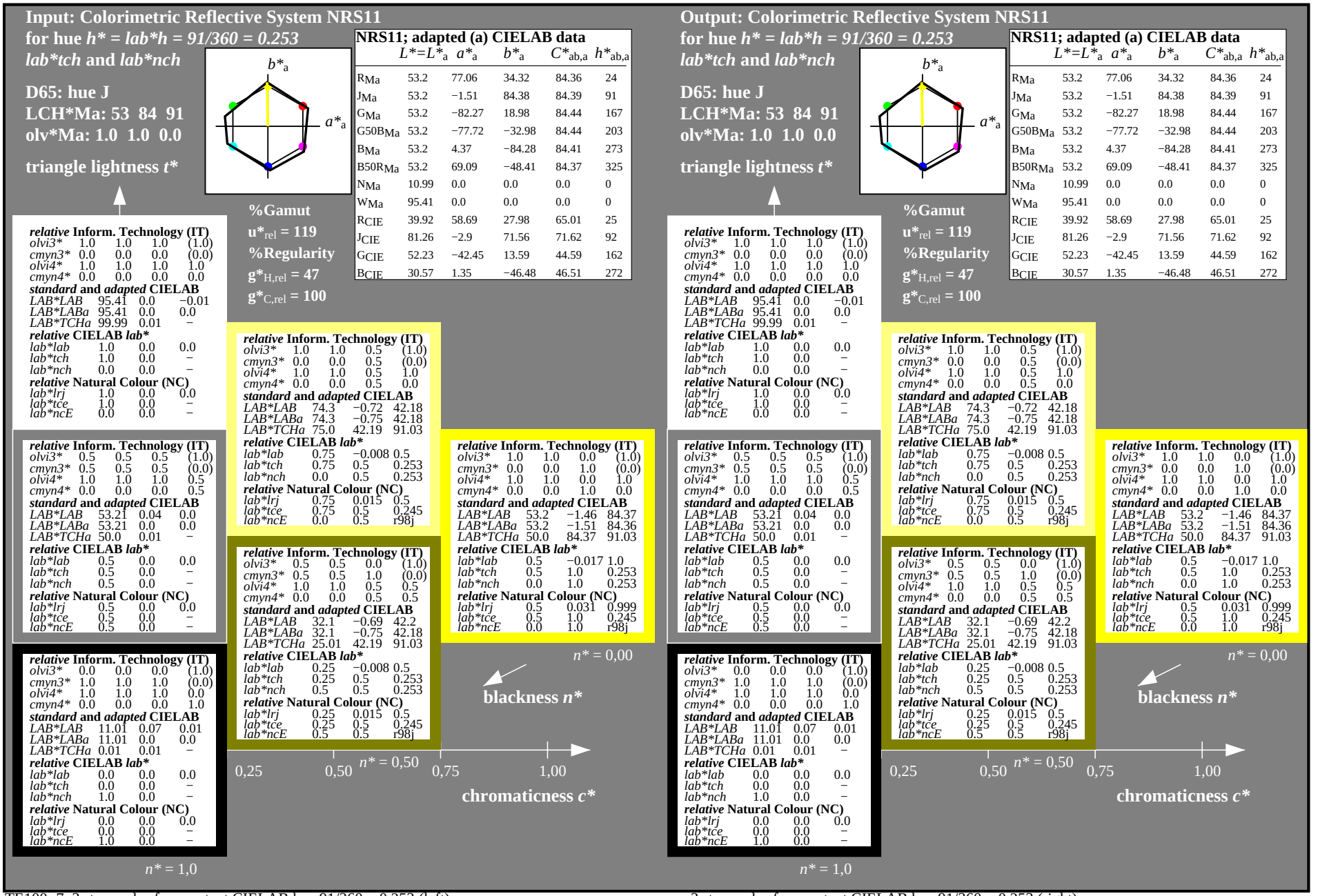
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)



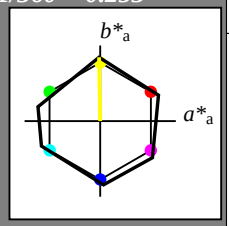
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

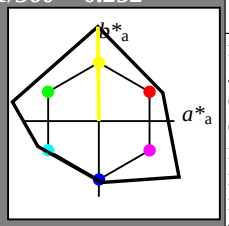
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.253 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

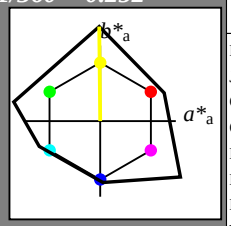
*n** = 1,0

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

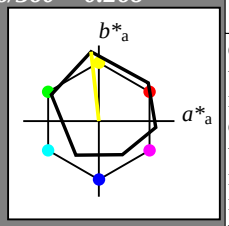
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

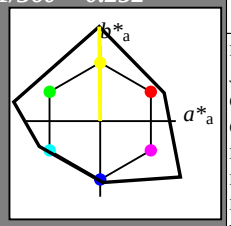
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

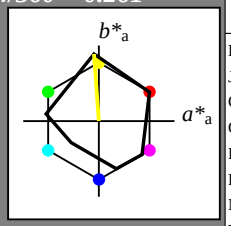
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 94/360 = 0.261**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 89 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−4.11	48.97
*LAB*LABa*	93.05	−3.17	44.37
*LAB*TCHa*	75.0	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.969	−0.035	0.499
*lab*tch*	0.75	0.5	0.261
*lab*nch*	0.0	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.37	46.36
*LAB*LABa*	54.35	−3.17	44.37
*LAB*TCHa*	25.01	44.48	94.1

relative* CIELAB *lab*

*lab*lab*	0.47	−0.035	0.499
*lab*tch*	0.25	0.5	0.261
*lab*nch*	0.5	0.5	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−6.36	88.73
*LAB*TCHa*	50.0	88.96	94.1

relative* CIELAB *lab*

*lab*lab*	0.939	−0.071	0.997
*lab*tch*	0.5	1.0	0.261
*lab*nch*	0.0	1.0	0.261

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.048	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

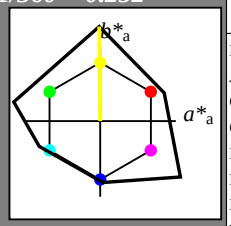
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 94/360 = 0.261 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

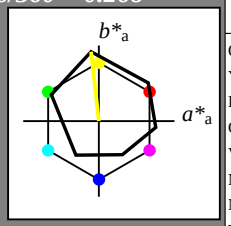
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 96/360 = 0.268**
lab*tch* and *lab*nch

D65: hue Y
LCH*Ma: 90 92 96
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.88	−6.06	50.46
*LAB*LABa*	92.88	−5.13	45.87
*LAB*TCHa*	75.0	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.967	−0.055	0.497
*lab*tch*	0.75	0.5	0.268
*lab*nch*	0.0	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.967	−0.048	0.497
*lab*tce*	0.75	0.5	0.266
*lab*ncE*	0.0	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.19	−5.32	47.85
*LAB*LABa*	54.19	−5.13	45.87
*LAB*TCHa*	25.01	46.16	96.39

relative* CIELAB *lab*

*lab*lab*	0.467	−0.055	0.497
*lab*tch*	0.25	0.5	0.268
*lab*nch*	0.5	0.5	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.467	−0.048	0.497
*lab*tce*	0.25	0.5	0.266
*lab*ncE*	0.5	0.5	j06g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.37	−11.15	96.17
*LAB*LABa*	90.37	−10.26	91.75
*LAB*TCHa*	50.0	92.32	96.39

relative* CIELAB *lab*

*lab*lab*	0.935	−0.11	0.994
*lab*tch*	0.5	1.0	0.268
*lab*nch*	0.0	1.0	0.268

***relative* Natural Colour (NC)**

*lab*lrj*	0.935	−0.097	0.995
*lab*tce*	0.5	1.0	0.266
*lab*ncE*	0.0	1.0	j06g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

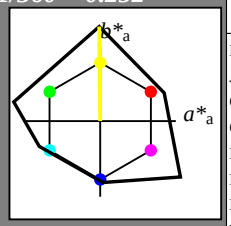
3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

Input: Colorimetric Reflective System NCS11

for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

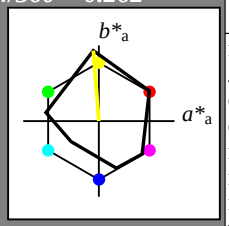
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 94/360 = 0.262**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 93 94
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.05	−3.61	46.59
*LAB*LABa*	93.05	−3.63	46.59
*LAB*TCHa*	75.0	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.969	−0.038	0.498
*lab*tch*	0.75	0.5	0.262
*lab*nch*	0.0	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.969	−0.023	0.499
*lab*tce*	0.75	0.5	0.258
*lab*ncE*	0.0	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.35	−3.57	46.6
*LAB*LABa*	54.35	−3.63	46.59
*LAB*TCHa*	25.01	46.73	94.46

relative* CIELAB *lab*

*lab*lab*	0.47	−0.038	0.498
*lab*tch*	0.25	0.5	0.262
*lab*nch*	0.5	0.5	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.47	−0.023	0.499
*lab*tce*	0.25	0.5	0.258
*lab*ncE*	0.5	0.5	j03g

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.69	−7.25	93.17
*LAB*LABa*	90.69	−7.26	93.18
*LAB*TCHa*	50.0	93.46	94.46

relative* CIELAB *lab*

*lab*lab*	0.939	−0.077	0.997
*lab*tch*	0.5	1.0	0.262
*lab*nch*	0.0	1.0	0.262

***relative* Natural Colour (NC)**

*lab*lrj*	0.939	−0.047	0.999
*lab*tce*	0.5	1.0	0.258
*lab*ncE*	0.0	1.0	j03g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

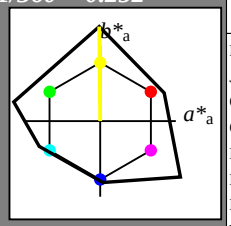
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

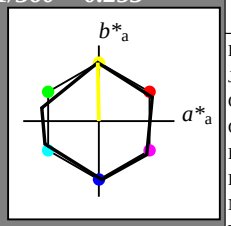
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 77 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−0.66	38.68
*LAB*LABa*	76.05	−0.69	38.68
*LAB*TCHa*	75.0	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−0.62	38.7
*LAB*LABa*	37.36	−0.69	38.68
*LAB*TCHa*	25.01	38.69	91.04

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−1.34	77.37
*LAB*LABa*	56.7	−1.39	77.36
*LAB*TCHa*	50.0	77.37	91.04

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.03	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

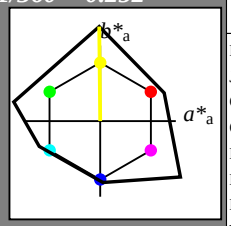
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

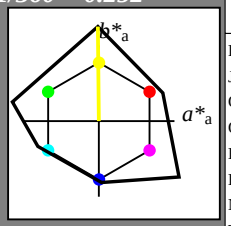
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5 (1.0)
*cmyn3**	0.0	0.0	0.5 (0.0)
*olvi4**	1.0	1.0	0.5 1.0
*cmyn4**	0.0	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.974	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.974	0.021	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0 (1.0)
*cmyn3**	0.5	0.5	1.0 (0.0)
*olvi4**	1.0	1.0	0.5 0.5
*cmyn4**	0.0	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.69	−0.58	62.52
*LAB*LABa*	54.69	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.474	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.474	0.021	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	1.0 (0.0)
*olvi4**	1.0	1.0	0.0 1.0
*cmyn4**	0.0	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.948	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.948	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

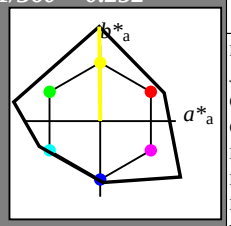
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

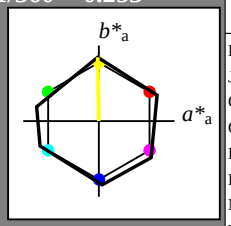
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 91/360 = 0.253**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 84 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−0.72	42.18
*LAB*LABa*	74.3	−0.75	42.18
*LAB*TCHa*	75.0	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.75	−0.008	0.5
*lab*tch*	0.75	0.5	0.253
*lab*nch*	0.0	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.015	0.5
*lab*tce*	0.75	0.5	0.245
*lab*ncE*	0.0	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−0.69	42.2
*LAB*LABa*	32.1	−0.75	42.18
*LAB*TCHa*	25.01	42.19	91.03

relative* CIELAB *lab*

*lab*lab*	0.25	−0.008	0.5
*lab*tch*	0.25	0.5	0.253
*lab*nch*	0.5	0.5	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.015	0.5
*lab*tce*	0.25	0.5	0.245
*lab*ncE*	0.5	0.5	r98j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−1.46	84.37
*LAB*LABa*	53.2	−1.51	84.36
*LAB*TCHa*	50.0	84.37	91.03

relative* CIELAB *lab*

*lab*lab*	0.5	−0.017	1.0
*lab*tch*	0.5	1.0	0.253
*lab*nch*	0.0	1.0	0.253

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.031	0.999
*lab*tce*	0.5	1.0	0.245
*lab*ncE*	0.0	1.0	r98j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

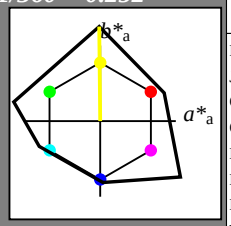
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.253 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

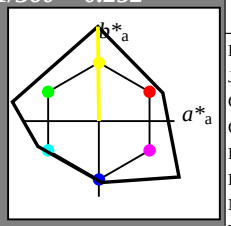
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 91/360 = 0.252**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 91 125 91
olv*Ma: 1.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.5	(1.0)
*cmyn3**	0.0	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	0.5	1.0
*cmyn4**	0.0	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	93.38	−0.62	62.5
*LAB*LABa*	93.38	−0.63	62.5
*LAB*TCHa*	75.0	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.976	−0.004	0.5
*lab*tch*	0.75	0.5	0.252
*lab*nch*	0.0	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.976	0.02	0.499
*lab*tce*	0.75	0.5	0.243
*lab*ncE*	0.0	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.0	(1.0)
*cmyn3**	0.5	0.5	1.0	(0.0)
*olvi4**	1.0	1.0	0.5	0.5
*cmyn4**	0.0	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	51.18	−0.59	62.51
*LAB*LABa*	51.18	−0.63	62.5
*LAB*TCHa*	25.01	62.5	90.59

relative* CIELAB *lab*

*lab*lab*	0.476	−0.004	0.5
*lab*tch*	0.25	0.5	0.252
*lab*nch*	0.5	0.5	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.476	0.02	0.499
*lab*tce*	0.25	0.5	0.243
*lab*ncE*	0.5	0.5	r97j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	1.0	(0.0)
*olvi4**	1.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	91.36	−1.26	125.0
*LAB*LABa*	91.36	−1.27	125.0
*LAB*TCHa*	50.0	125.01	90.59

relative* CIELAB *lab*

*lab*lab*	0.952	−0.009	1.0
*lab*tch*	0.5	1.0	0.252
*lab*nch*	0.0	1.0	0.252

***relative* Natural Colour (NC)**

*lab*lrj*	0.952	0.041	0.999
*lab*tce*	0.5	1.0	0.243
*lab*ncE*	0.0	1.0	r97j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

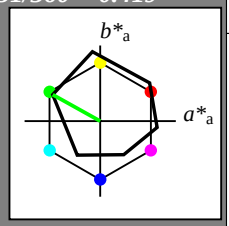
TE100−7, 3 step scales for constant CIELAB hue 91/360 = 0.252 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

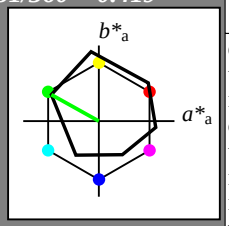
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

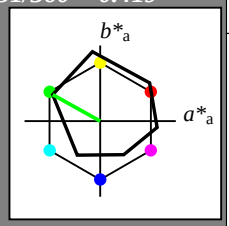
3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System ORS18

for hue *h* = lab*h = 151/360 = 0.419*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

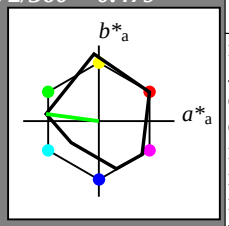
TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 172/360 = 0.479*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

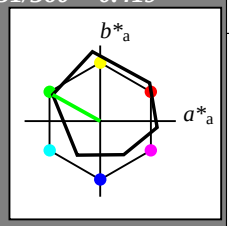
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

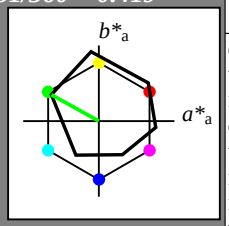
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

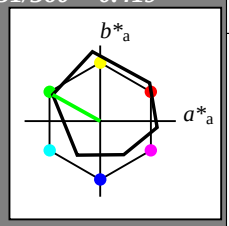
*n** = 1,0

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

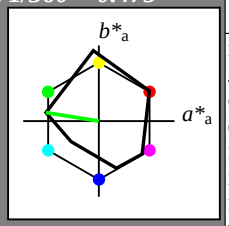
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

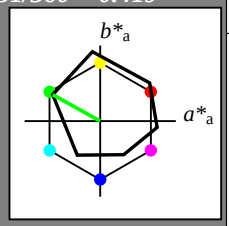
TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

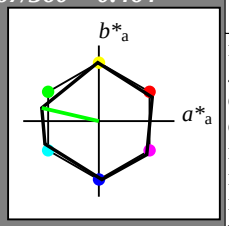
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

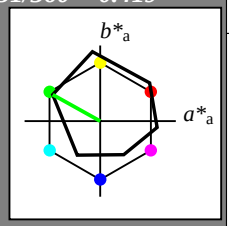
*n** = 1,0

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 −0.97 4.75
*LAB*LABa* 95.41 0.0 0.0
*LAB*TCHa* 99.99 0.01 –
relative* CIELAB *lab*
*lab*lab* 1.0 0.0 0.0
*lab*tch* 1.0 0.0 –
*lab*nch* 0.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 1.0 0.0 0.0
*lab*tce* 1.0 0.0 –
*lab*ncE* 0.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.5 1.0 0.5 (1.0)
*cmyn3** 0.5 0.0 0.5 (0.0)
*olvi4** 0.5 1.0 0.5 1.0
*cmyn4** 0.5 0.0 0.5 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 73.15 −31.94 20.73
*LAB*LABa* 73.15 −31.38 17.47
*LAB*TCHa* 75.0 35.93 150.91
relative* CIELAB *lab*
*lab*lab* 0.712 −0.436 0.243
*lab*tch* 0.75 0.5 0.419
*lab*nch* 0.0 0.5 0.419
***relative* Natural Colour (NC)**
*lab*lrj* 0.712 −0.478 0.144
*lab*tce* 0.75 0.5 0.453
*lab*ncE* 0.0 0.5 j81g

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.71 −0.23 2.14
*LAB*LABa* 56.71 0.0 0.0
*LAB*TCHa* 50.0 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.5 0.0 0.0
*lab*tch* 0.5 0.0 –
*lab*nch* 0.5 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.0 0.0
*lab*tce* 0.5 0.0 –
*lab*ncE* 0.5 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.5 0.0 (1.0)
*cmyn3** 1.0 0.5 1.0 (0.0)
*olvi4** 0.5 1.0 0.5 0.5
*cmyn4** 0.5 0.0 0.5 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 34.46 −31.2 18.11
*LAB*LABa* 34.46 −31.38 17.47
*LAB*TCHa* 25.01 35.93 150.91
relative* CIELAB *lab*
*lab*lab* 0.213 −0.436 0.243
*lab*tch* 0.25 0.5 0.419
*lab*nch* 0.5 0.5 0.419
***relative* Natural Colour (NC)**
*lab*lrj* 0.213 −0.478 0.144
*lab*tce* 0.25 0.5 0.453
*lab*ncE* 0.5 0.5 j81g

***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.0 (1.0)
*cmyn3** 1.0 0.0 1.0 (0.0)
*olvi4** 0.0 1.0 0.0 1.0
*cmyn4** 1.0 0.0 1.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 50.9 −62.91 36.69
*LAB*LABa* 50.9 −62.78 34.94
*LAB*TCHa* 50.0 71.86 150.91
relative* CIELAB *lab*
*lab*lab* 0.425 −0.873 0.486
*lab*tch* 0.5 1.0 0.419
*lab*nch* 0.0 1.0 0.419
***relative* Natural Colour (NC)**
*lab*lrj* 0.425 −0.956 0.289
*lab*tce* 0.5 1.0 0.453
*lab*ncE* 0.0 1.0 j81g

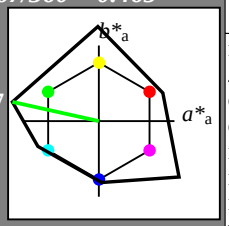
***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.02 0.5 −0.46
*LAB*LABa* 18.02 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 −0.01
*LAB*LABa* 95.41 0.0 0.0
*LAB*TCHa* 99.99 0.01 –
relative* CIELAB *lab*
*lab*lab* 1.0 0.0 0.0
*lab*tch* 1.0 0.0 –
*lab*nch* 0.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 1.0 0.0 0.0
*lab*tce* 1.0 0.0 –
*lab*ncE* 0.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.5 1.0 0.5 (1.0)
*cmyn3** 0.5 0.0 0.5 (0.0)
*olvi4** 0.5 1.0 0.5 1.0
*cmyn4** 0.5 0.0 0.5 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 79.24 −57.1 12.67
*LAB*LABa* 79.24 −57.13 12.67
*LAB*TCHa* 75.0 58.52 167.5
relative* CIELAB *lab*
*lab*lab* 0.791 −0.487 0.108
*lab*tch* 0.75 0.5 0.465
*lab*nch* 0.0 0.5 0.465
***relative* Natural Colour (NC)**
*lab*lrj* 0.791 −0.497 −0.037
*lab*tce* 0.75 0.5 0.512
*lab*ncE* 0.0 0.5 g04b

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.05 0.0
*LAB*LABa* 56.72 0.0 0.0
*LAB*TCHa* 50.0 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.5 0.0 0.0
*lab*tch* 0.5 0.0 –
*lab*nch* 0.5 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.0 0.0
*lab*tce* 0.5 0.0 –
*lab*ncE* 0.5 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.5 0.0 (1.0)
*cmyn3** 1.0 0.5 1.0 (0.0)
*olvi4** 0.5 1.0 0.5 0.5
*cmyn4** 0.5 0.0 0.5 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 40.54 −57.06 12.69
*LAB*LABa* 40.54 −57.13 12.67
*LAB*TCHa* 25.01 58.52 167.5
relative* CIELAB *lab*
*lab*lab* 0.291 −0.487 0.108
*lab*tch* 0.25 0.5 0.465
*lab*nch* 0.5 0.5 0.465
***relative* Natural Colour (NC)**
*lab*lrj* 0.291 −0.497 −0.037
*lab*tce* 0.25 0.5 0.512
*lab*ncE* 0.5 0.5 g04b

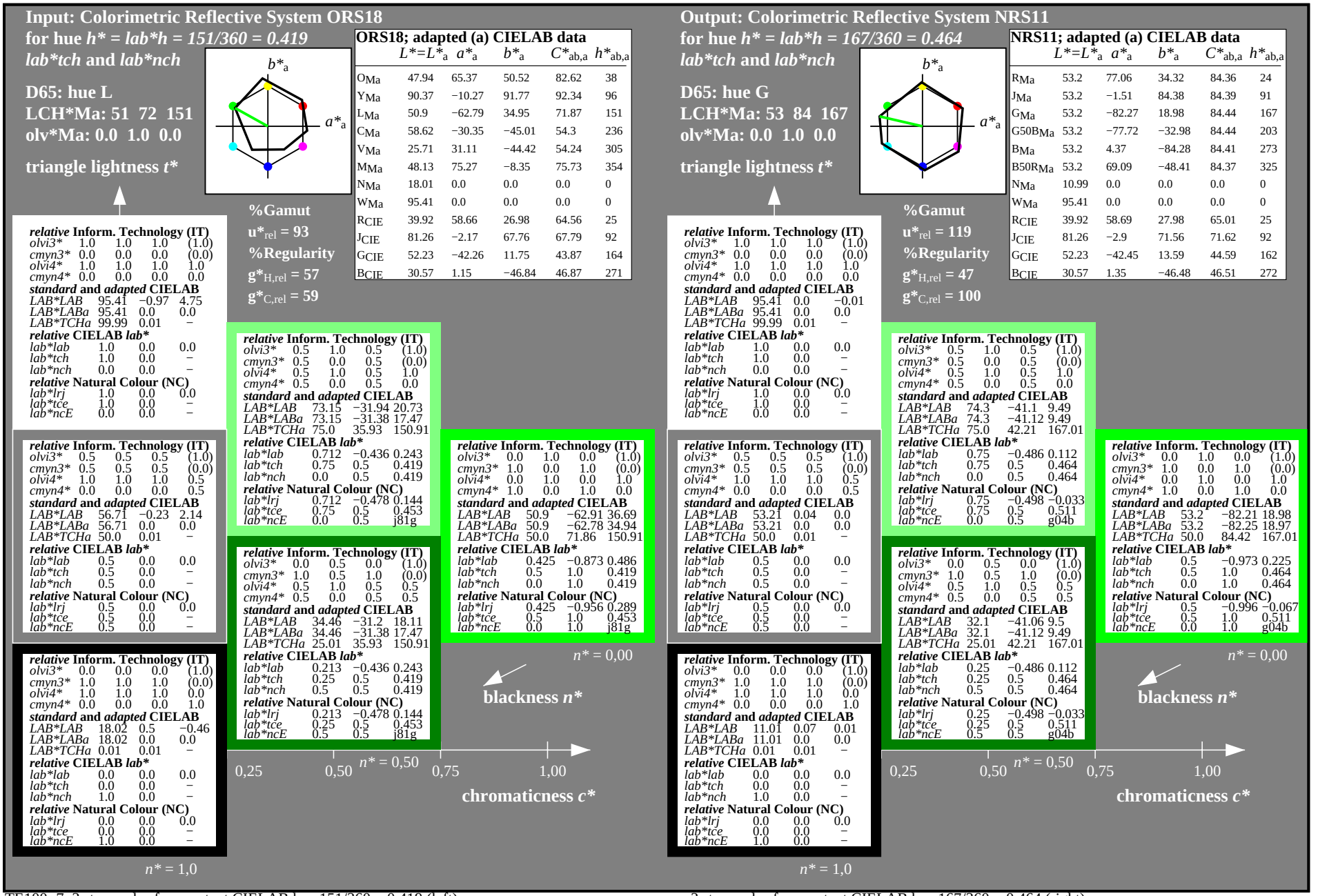
***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.0 (1.0)
*cmyn3** 1.0 0.0 1.0 (0.0)
*olvi4** 0.0 1.0 0.0 1.0
*cmyn4** 1.0 0.0 1.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 63.07 −114.22 25.35
*LAB*LABa* 63.07 −114.26 25.34
*LAB*TCHa* 50.0 117.05 167.5
relative* CIELAB *lab*
*lab*lab* 0.582 −0.975 0.216
*lab*tch* 0.5 1.0 0.465
*lab*nch* 0.0 1.0 0.465
***relative* Natural Colour (NC)**
*lab*lrj* 0.582 −0.996 −0.074
*lab*tce* 0.5 1.0 0.512
*lab*ncE* 0.0 1.0 g04b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.02 0.09 0.02
*LAB*LABa* 18.02 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)



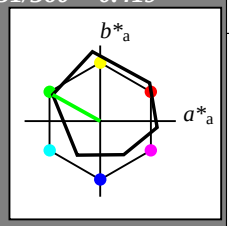
TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

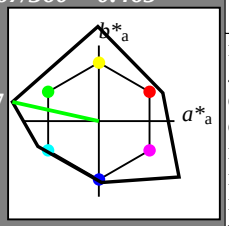
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

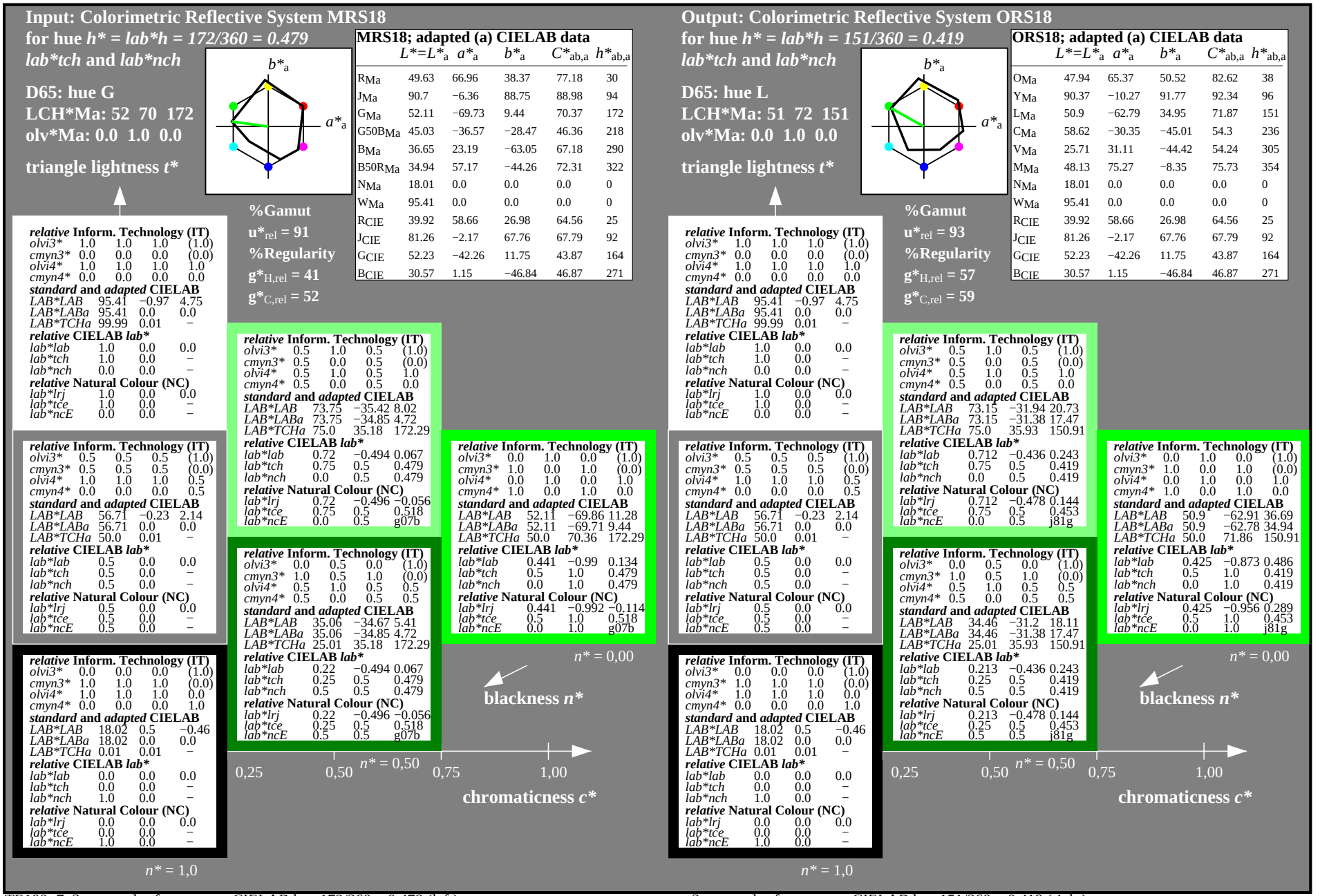
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)



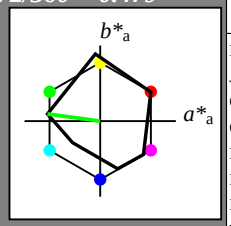
TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

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*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

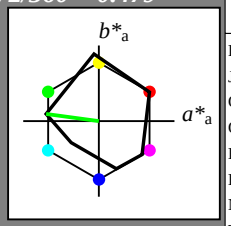
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
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*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

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*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

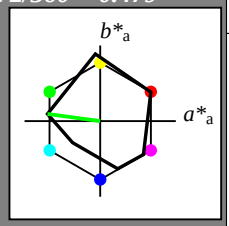
TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
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***standard* and *adapted* CIELAB**

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*lab*lab*	0.72	−0.494	0.067
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*lab*nch*	0.0	0.5	0.479

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*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
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*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
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***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

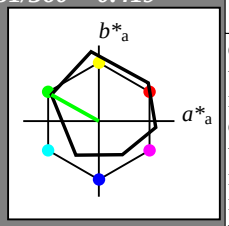
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

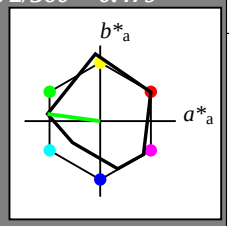
*n** = 1,0

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

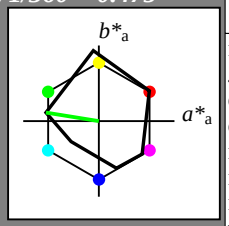
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

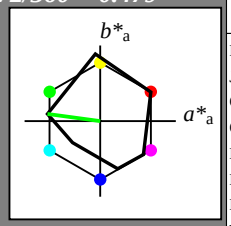
TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

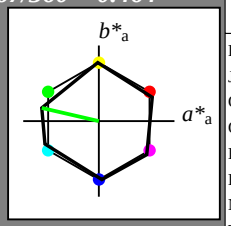
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

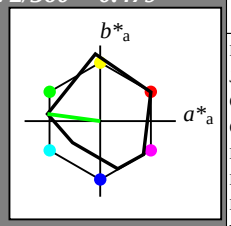
TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

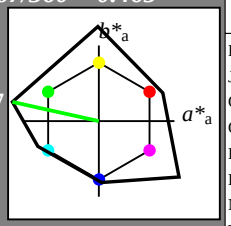
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

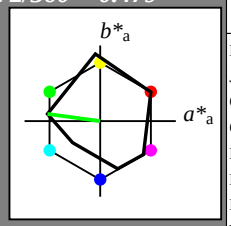
TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

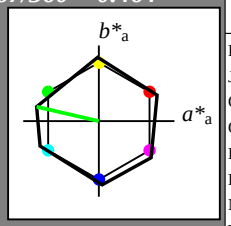
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

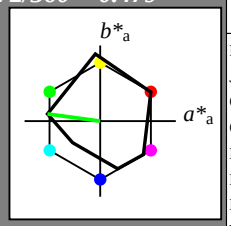
TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

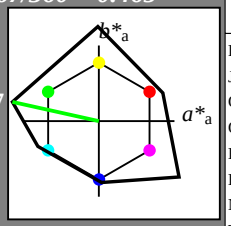
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

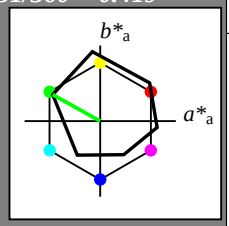
TE100−7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

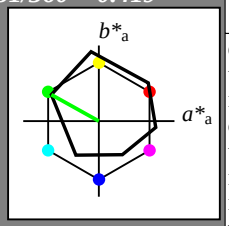
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

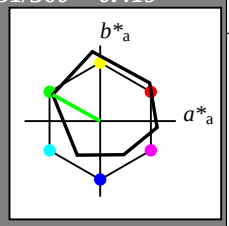
*n** = 1,0

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

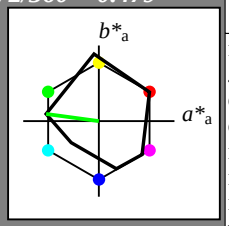
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

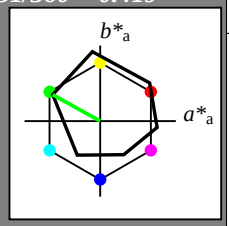
TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

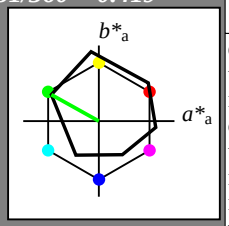
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

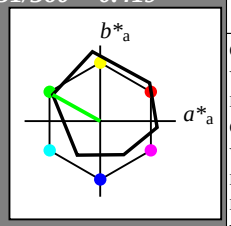
3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System TRS18

for hue *h* = lab*h = 151/360 = 0.419*
*lab*tch* and *lab*nch*

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

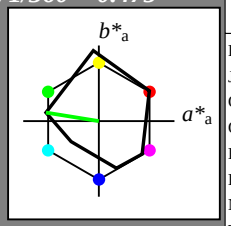
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h* = lab*h = 171/360 = 0.475*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

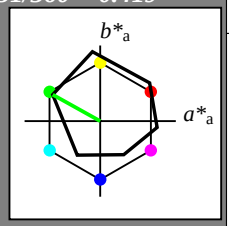
TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

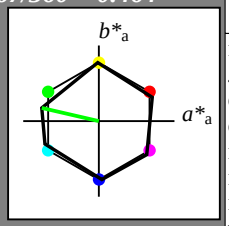
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

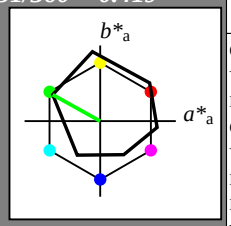
*n** = 1,0

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

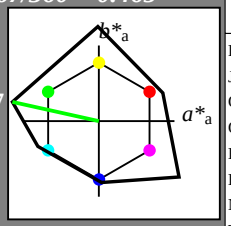
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

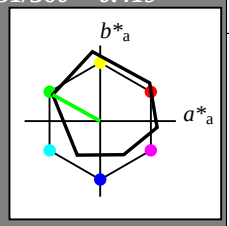
3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

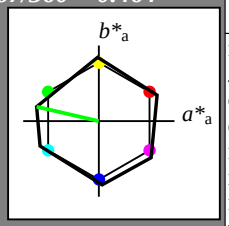
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

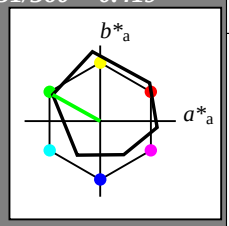
TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

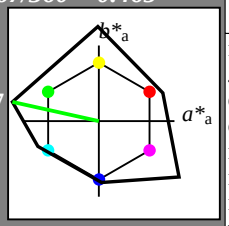
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

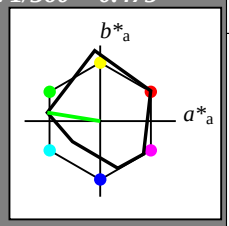
*n** = 1,0

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

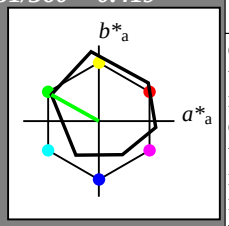
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

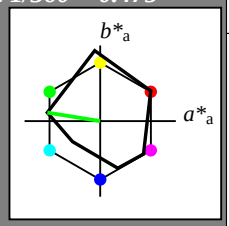
3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h* = lab*h = 171/360 = 0.475*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

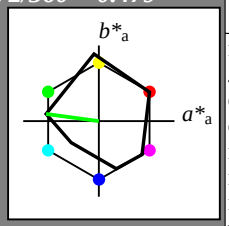
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h* = lab*h = 172/360 = 0.479*
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

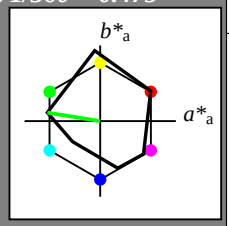
TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

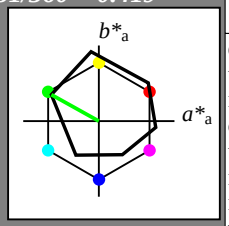
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

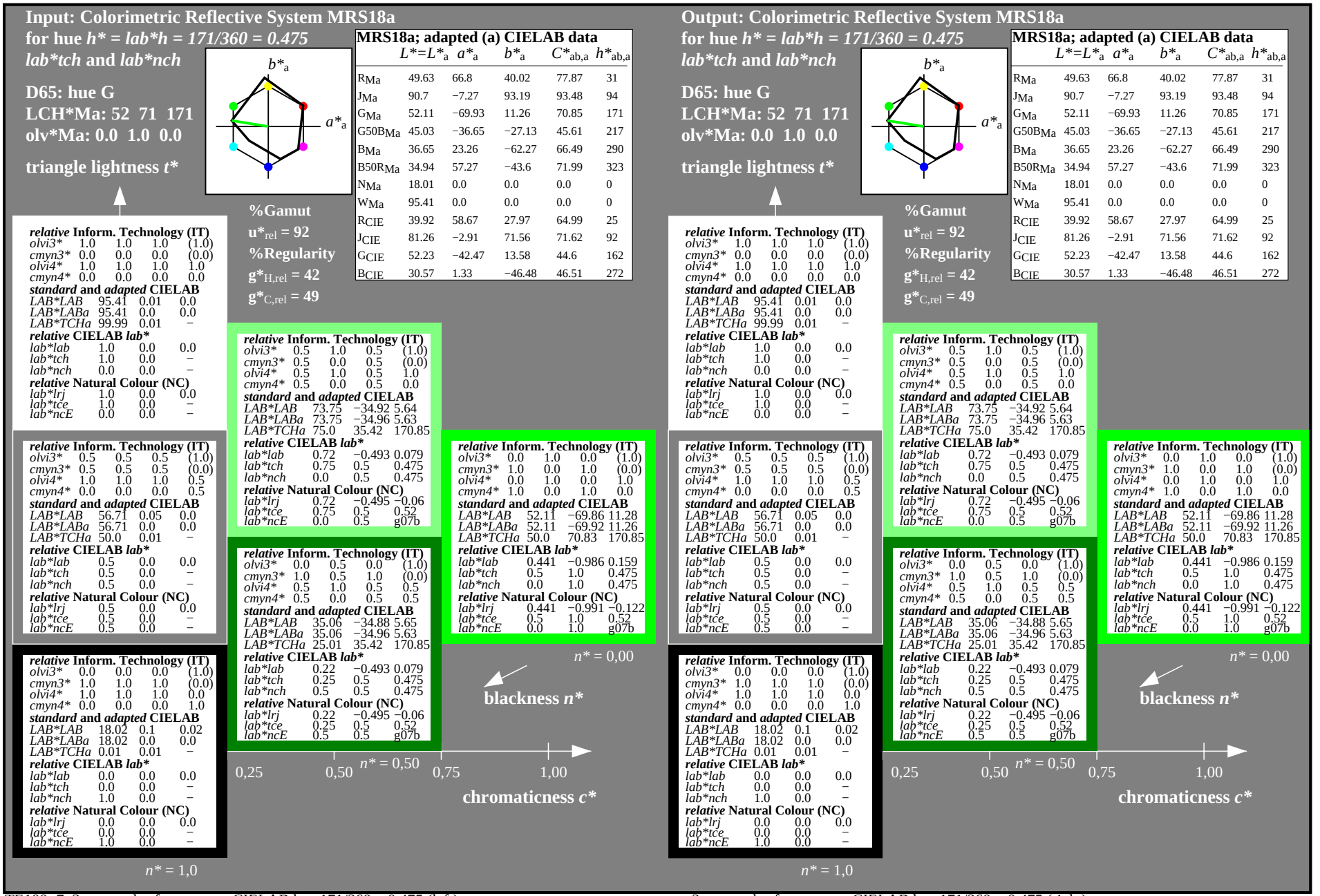
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

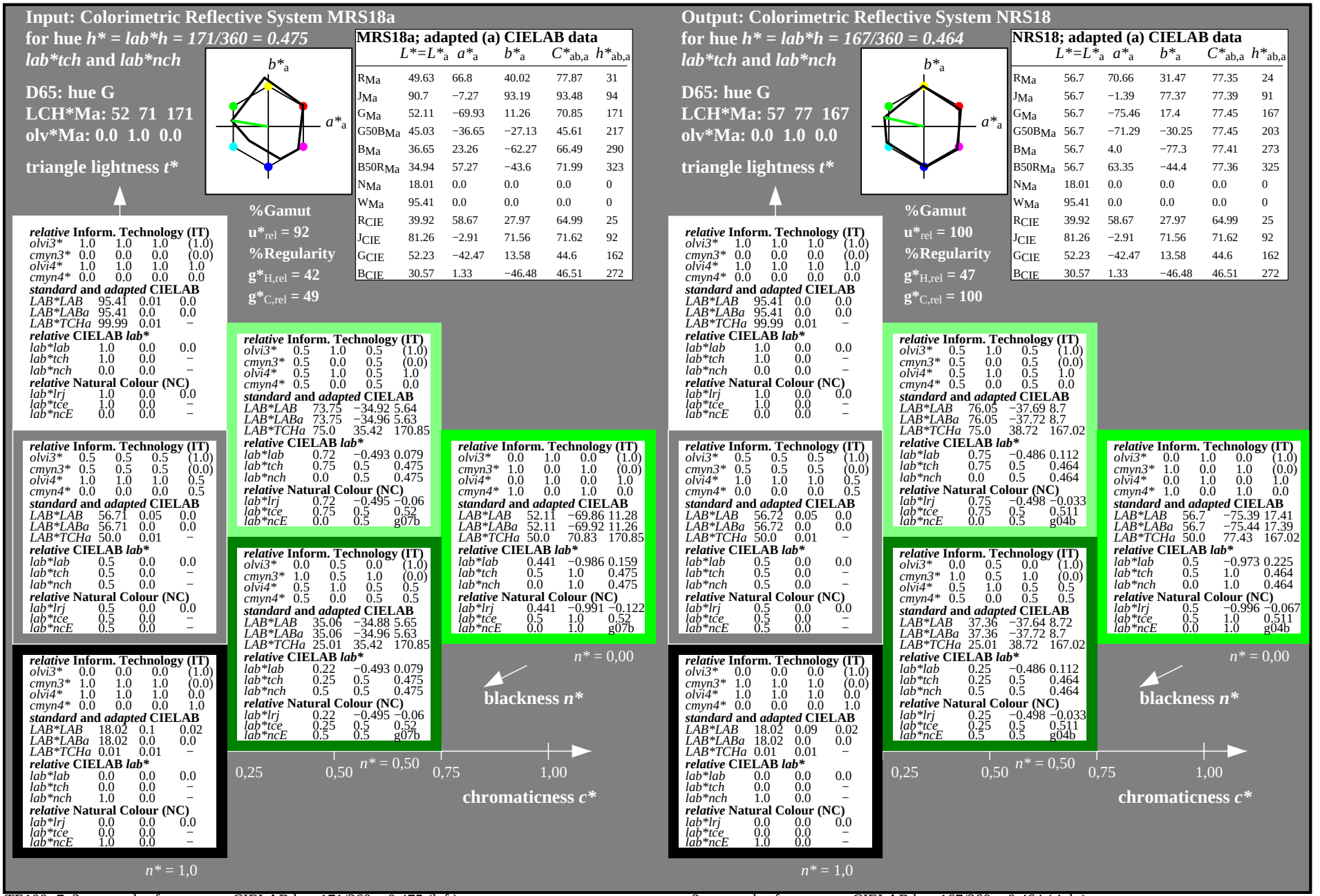
TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)



TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)



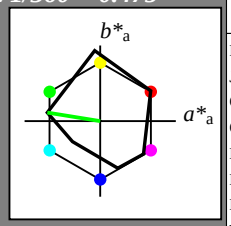
TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

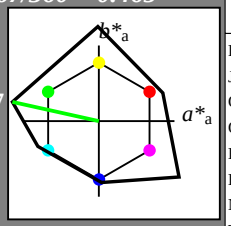
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

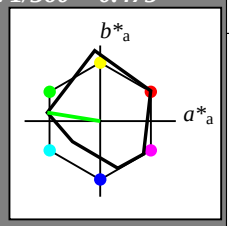
TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

*n** = 1,0

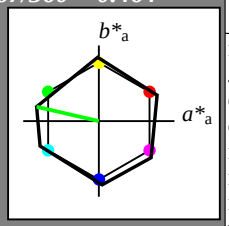
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

*n** = 1,0

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

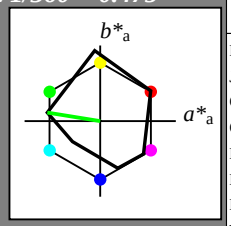
TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

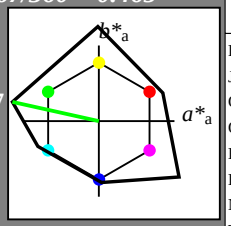
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

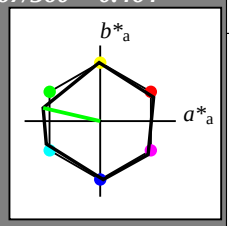
TE100−7, 3 step scales for constant CIELAB hue 171/360 = 0.475 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

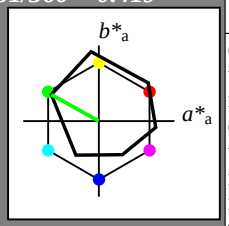
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

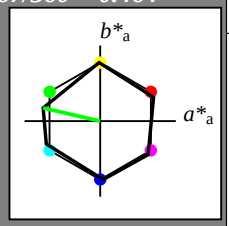
3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System NRS18

for hue *h = lab*h = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

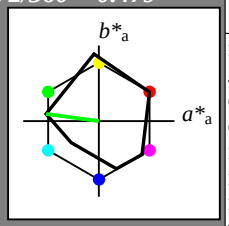
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h = lab*h = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

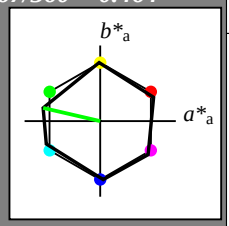
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

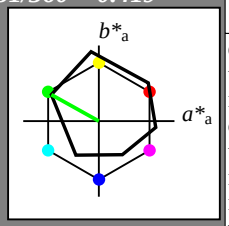
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

$n^* = 0{,}00$

blackness *n**

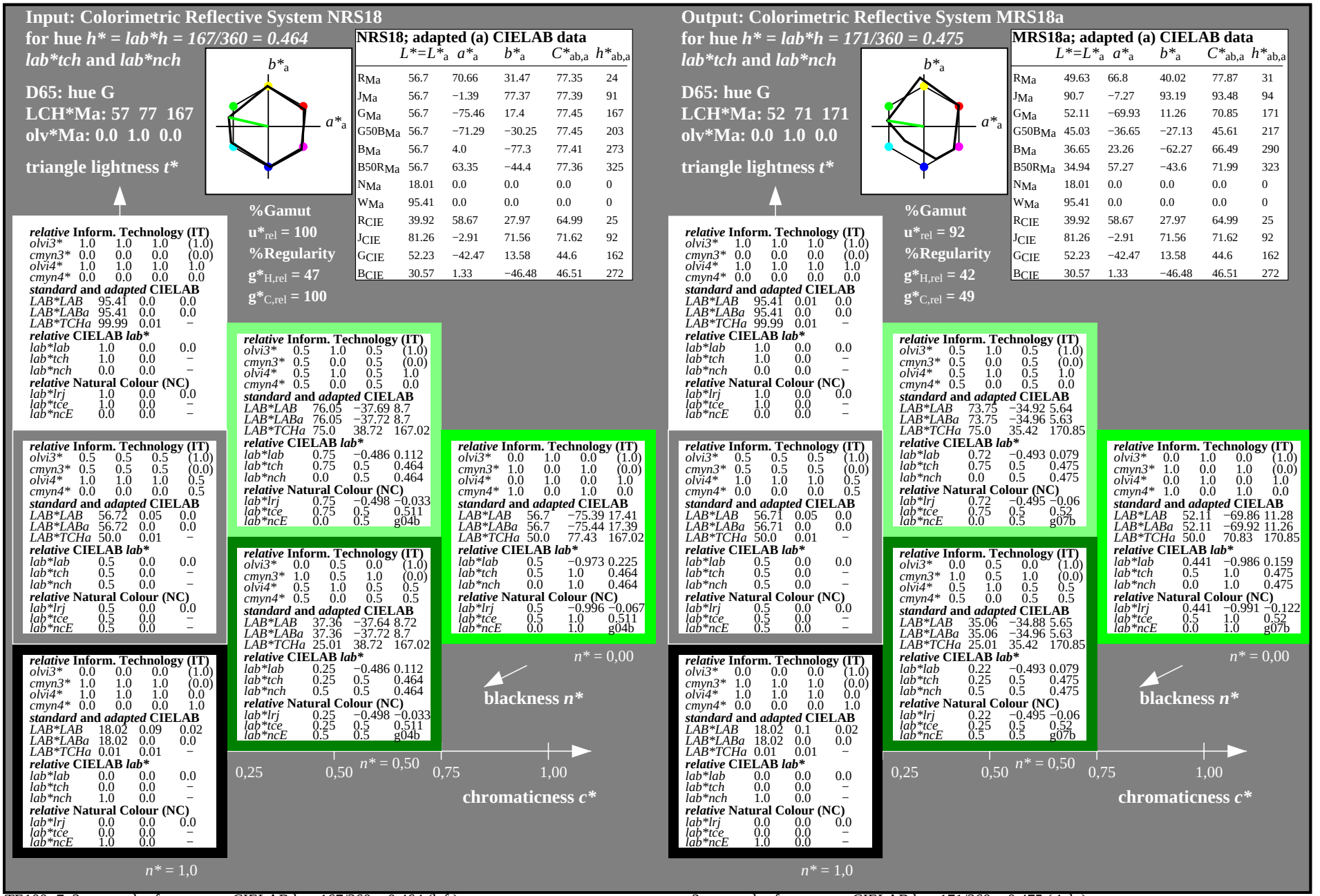
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

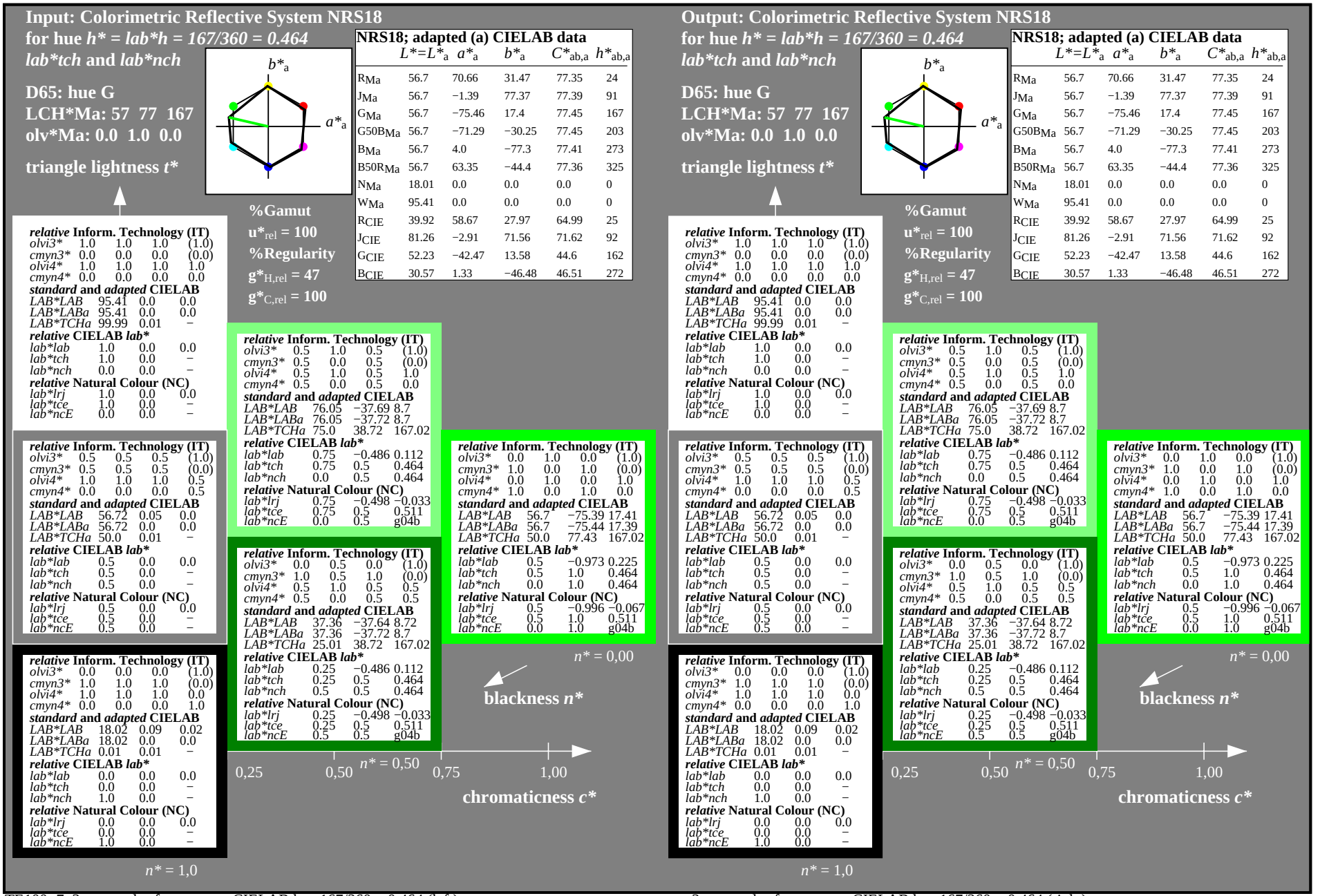
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)



TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)



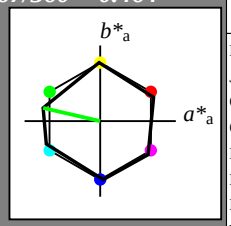
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

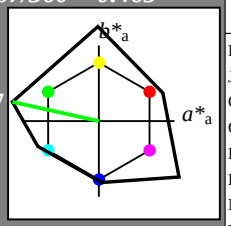
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

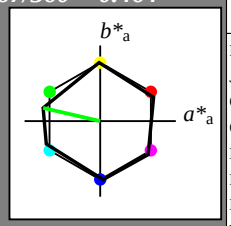
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

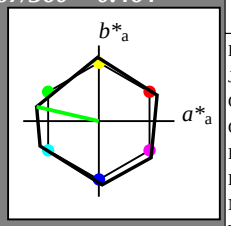
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

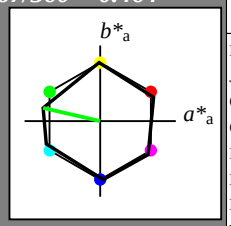
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

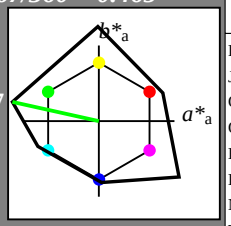
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

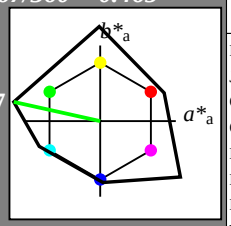
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

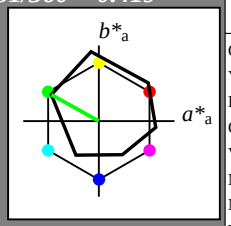
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

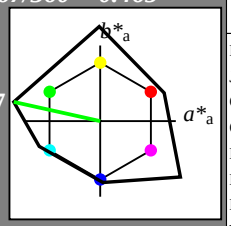
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

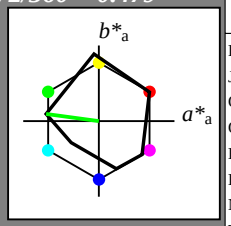
*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00
blackness *n**
*n** = 1,0
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00
blackness *n**
*n** = 1,0
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**

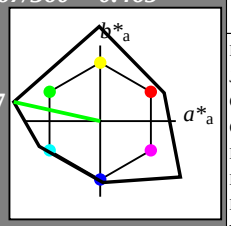
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

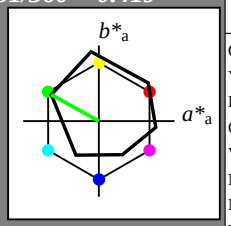
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$
blackness *n**
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00
chromaticness *c**
$n^* = 1{,}0$

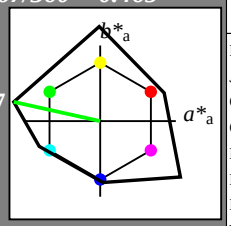
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

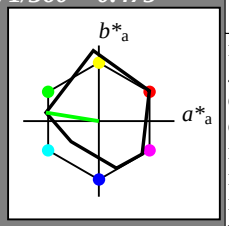
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

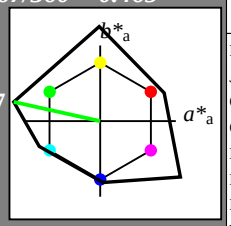
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

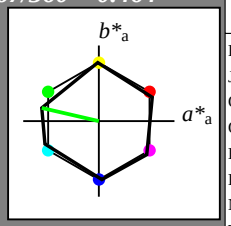
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

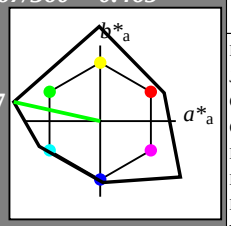
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

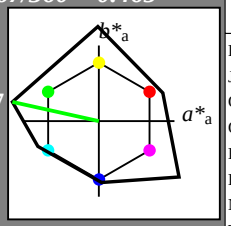
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

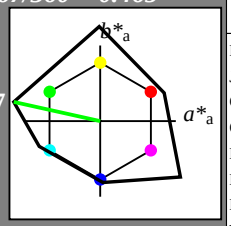
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

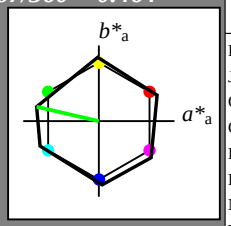
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

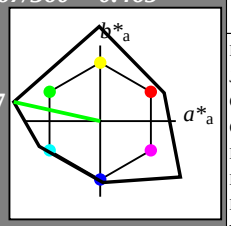
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

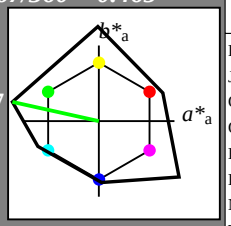
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

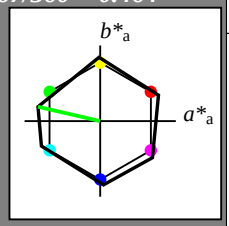
*n** = 1,0

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

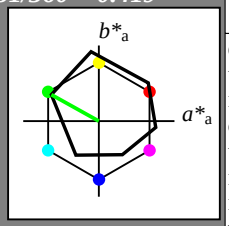
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

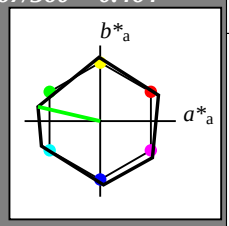
3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 167/360 = 0.464
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

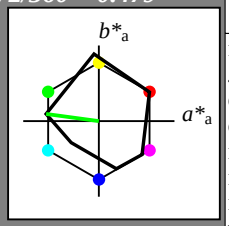
*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 172/360 = 0.479
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

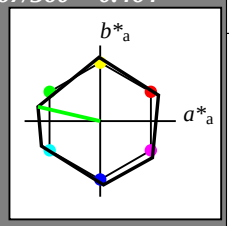
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

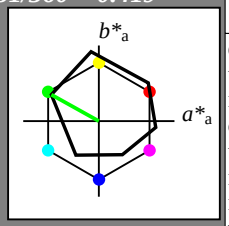
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

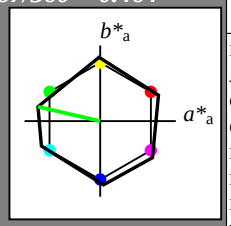
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

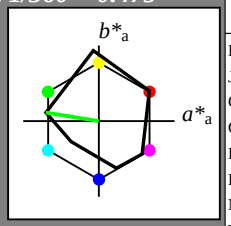
*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

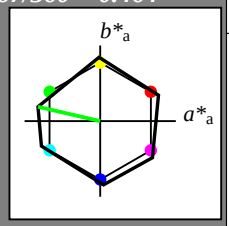
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

*n** = 0,00

blackness *n**

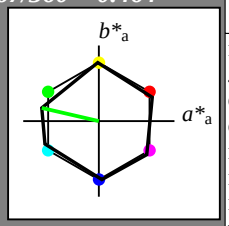
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 1,0

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

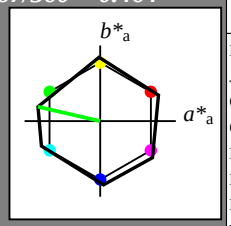
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

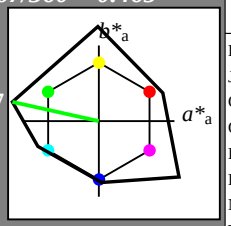
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

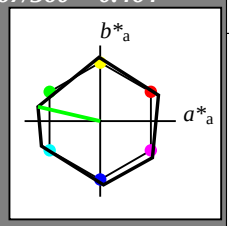
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

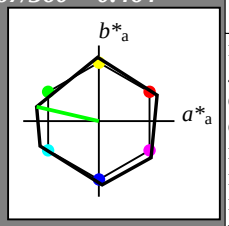
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

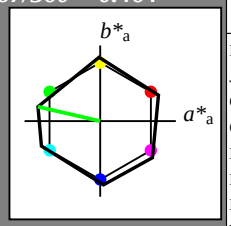
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

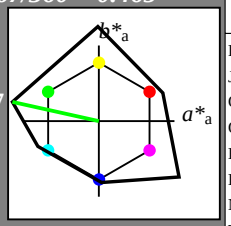
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

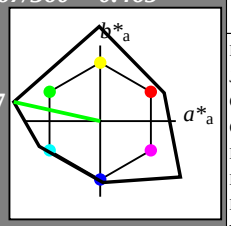
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.464 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

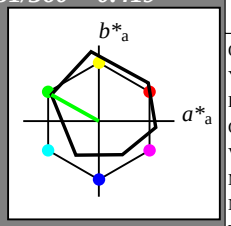
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

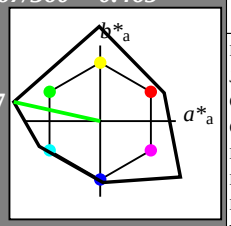
*n** = 1,0

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

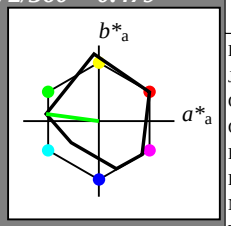
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 172/360 = 0.479**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 70 172
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−35.42	8.02
*LAB*LABa*	73.75	−34.85	4.72
*LAB*TCHa*	75.0	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.72	−0.494	0.067
*lab*tch*	0.75	0.5	0.479
*lab*nch*	0.0	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.496	−0.056
*lab*tce*	0.75	0.5	0.518
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.67	5.41
*LAB*LABa*	35.06	−34.85	4.72
*LAB*TCHa*	25.01	35.18	172.29

relative* CIELAB *lab*

*lab*lab*	0.22	−0.494	0.067
*lab*tch*	0.25	0.5	0.479
*lab*nch*	0.5	0.5	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.496	−0.056
*lab*tce*	0.25	0.5	0.518
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.71	9.44
*LAB*TCHa*	50.0	70.36	172.29

relative* CIELAB *lab*

*lab*lab*	0.441	−0.99	0.134
*lab*tch*	0.5	1.0	0.479
*lab*nch*	0.0	1.0	0.479

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.992	−0.114
*lab*tce*	0.5	1.0	0.518
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

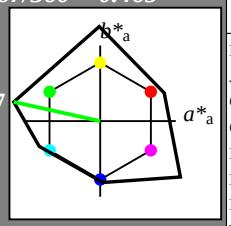
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 172/360 = 0.479 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

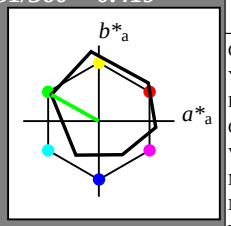
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 151/360 = 0.419**
lab*tch* and *lab*nch

D65: hue L
LCH*Ma: 51 72 151
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.15	−31.94	20.73
*LAB*LABa*	73.15	−31.38	17.47
*LAB*TCHa*	75.0	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.712	−0.436	0.243
*lab*tch*	0.75	0.5	0.419
*lab*nch*	0.0	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.712	−0.478	0.144
*lab*tce*	0.75	0.5	0.453
*lab*ncE*	0.0	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.46	−31.2	18.11
*LAB*LABa*	34.46	−31.38	17.47
*LAB*TCHa*	25.01	35.93	150.91

relative* CIELAB *lab*

*lab*lab*	0.213	−0.436	0.243
*lab*tch*	0.25	0.5	0.419
*lab*nch*	0.5	0.5	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.213	−0.478	0.144
*lab*tce*	0.25	0.5	0.453
*lab*ncE*	0.5	0.5	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.9	−62.91	36.69
*LAB*LABa*	50.9	−62.78	34.94
*LAB*TCHa*	50.0	71.86	150.91

relative* CIELAB *lab*

*lab*lab*	0.425	−0.873	0.486
*lab*tch*	0.5	1.0	0.419
*lab*nch*	0.0	1.0	0.419

***relative* Natural Colour (NC)**

*lab*lrj*	0.425	−0.956	0.289
*lab*tce*	0.5	1.0	0.453
*lab*ncE*	0.0	1.0	j81g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

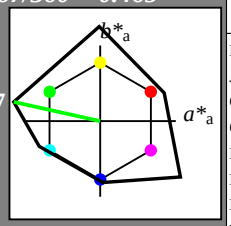
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

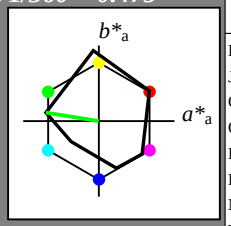
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 171/360 = 0.475**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 52 71 171
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	73.75	−34.92	5.64
*LAB*LABa*	73.75	−34.96	5.63
*LAB*TCHa*	75.0	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.72	−0.493	0.079
*lab*tch*	0.75	0.5	0.475
*lab*nch*	0.0	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	−0.495	−0.06
*lab*tce*	0.75	0.5	0.52
*lab*ncE*	0.0	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.06	−34.88	5.65
*LAB*LABa*	35.06	−34.96	5.63
*LAB*TCHa*	25.01	35.42	170.85

relative* CIELAB *lab*

*lab*lab*	0.22	−0.493	0.079
*lab*tch*	0.25	0.5	0.475
*lab*nch*	0.5	0.5	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	−0.495	−0.06
*lab*tce*	0.25	0.5	0.52
*lab*ncE*	0.5	0.5	g07b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.11	−69.86	11.28
*LAB*LABa*	52.11	−69.92	11.26
*LAB*TCHa*	50.0	70.83	170.85

relative* CIELAB *lab*

*lab*lab*	0.441	−0.986	0.159
*lab*tch*	0.5	1.0	0.475
*lab*nch*	0.0	1.0	0.475

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	−0.991	−0.122
*lab*tce*	0.5	1.0	0.52
*lab*ncE*	0.0	1.0	g07b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

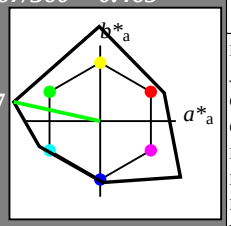
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

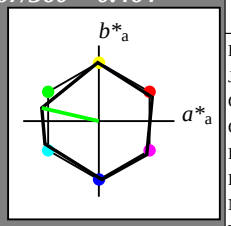
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 77 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−37.69	8.7
*LAB*LABa*	76.05	−37.72	8.7
*LAB*TCHa*	75.0	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−37.64	8.72
*LAB*LABa*	37.36	−37.72	8.7
*LAB*TCHa*	25.01	38.72	167.02

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−75.39	17.41
*LAB*LABa*	56.7	−75.44	17.39
*LAB*TCHa*	50.0	77.43	167.02

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

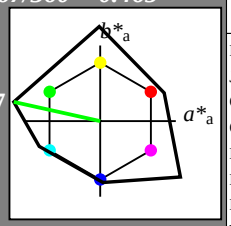
*n** = 1,0

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

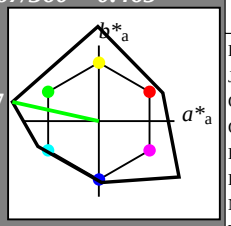
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.13	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.791	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.791	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	40.54	−57.06	12.69
*LAB*LABa*	40.54	−57.13	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.291	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.291	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.26	25.34
*LAB*TCHa*	50.0	117.05	167.5

relative* CIELAB *lab*

*lab*lab*	0.582	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.582	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

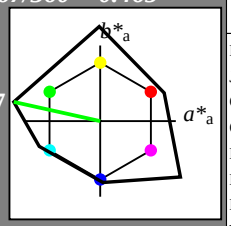
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

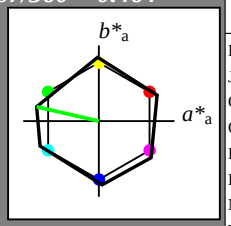
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 167/360 = 0.464**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 84 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−41.1	9.49
*LAB*LABa*	74.3	−41.12	9.49
*LAB*TCHa*	75.0	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.75	−0.486	0.112
*lab*tch*	0.75	0.5	0.464
*lab*nch*	0.0	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.498	−0.033
*lab*tce*	0.75	0.5	0.511
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−41.06	9.5
*LAB*LABa*	32.1	−41.12	9.49
*LAB*TCHa*	25.01	42.21	167.01

relative* CIELAB *lab*

*lab*lab*	0.25	−0.486	0.112
*lab*tch*	0.25	0.5	0.464
*lab*nch*	0.5	0.5	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.498	−0.033
*lab*tce*	0.25	0.5	0.511
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−82.21	18.98
*LAB*LABa*	53.2	−82.25	18.97
*LAB*TCHa*	50.0	84.42	167.01

relative* CIELAB *lab*

*lab*lab*	0.5	−0.973	0.225
*lab*tch*	0.5	1.0	0.464
*lab*nch*	0.0	1.0	0.464

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.996	−0.067
*lab*tce*	0.5	1.0	0.511
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

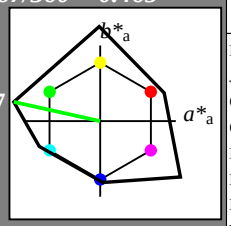
TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

3 step scales for constant CIELAB hue 167/360 = 0.464 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

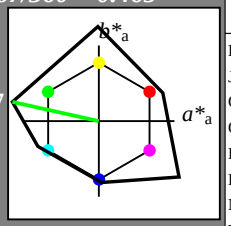
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 167/360 = 0.465 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 167/360 = 0.465**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 63 117 167
olv*Ma: 0.0 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	0.5	1.0	0.5	1.0
*cmyn4**	0.5	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	79.24	−57.1	12.67
*LAB*LABa*	79.24	−57.12	12.67
*LAB*TCHa*	75.0	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.808	−0.487	0.108
*lab*tch*	0.75	0.5	0.465
*lab*nch*	0.0	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.808	−0.497	−0.037
*lab*tce*	0.75	0.5	0.512
*lab*ncE*	0.0	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.0	(1.0)
*cmyn3**	1.0	0.5	1.0	(0.0)
*olvi4**	0.5	1.0	0.5	0.5
*cmyn4**	0.5	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−57.07	12.69
*LAB*LABa*	37.04	−57.12	12.67
*LAB*TCHa*	25.01	58.52	167.5

relative* CIELAB *lab*

*lab*lab*	0.309	−0.487	0.108
*lab*tch*	0.25	0.5	0.465
*lab*nch*	0.5	0.5	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.309	−0.497	−0.037
*lab*tce*	0.25	0.5	0.512
*lab*ncE*	0.5	0.5	g04b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	1.0	0.0	1.0	(0.0)
*olvi4**	0.0	1.0	0.0	1.0
*cmyn4**	1.0	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	63.07	−114.22	25.35
*LAB*LABa*	63.07	−114.25	25.34
*LAB*TCHa*	50.0	117.04	167.5

relative* CIELAB *lab*

*lab*lab*	0.617	−0.975	0.216
*lab*tch*	0.5	1.0	0.465
*lab*nch*	0.0	1.0	0.465

***relative* Natural Colour (NC)**

*lab*lrj*	0.617	−0.996	−0.074
*lab*tce*	0.5	1.0	0.512
*lab*ncE*	0.0	1.0	g04b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

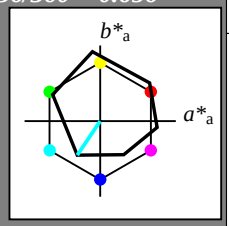
*n** = 1,0

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

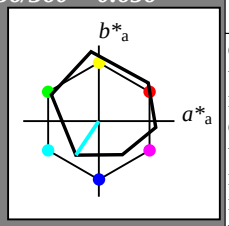
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

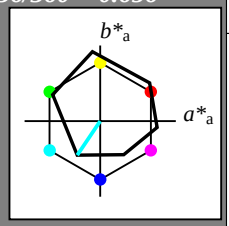
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

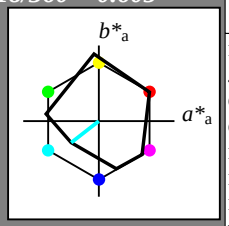
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 218/360 = 0.605
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

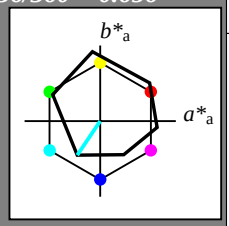
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

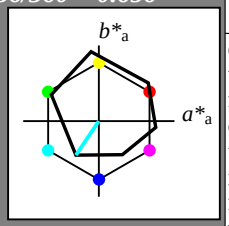
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

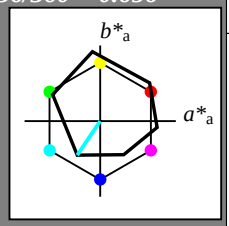
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

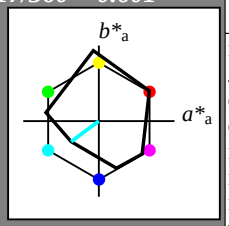
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

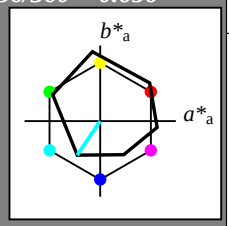
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

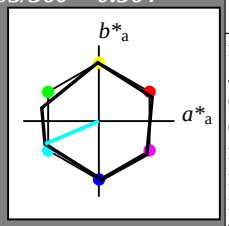
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

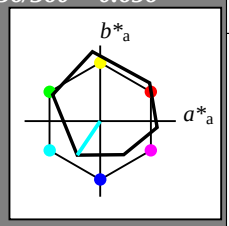
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

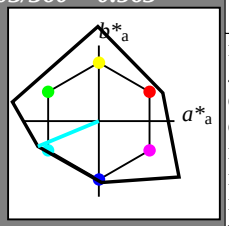
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

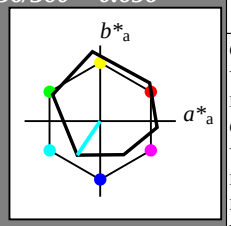
3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

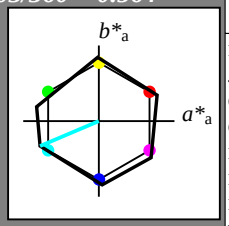
n^* = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 203/360 = 0.564
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

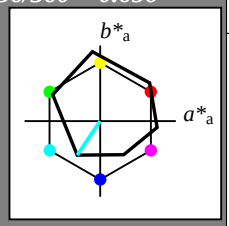
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

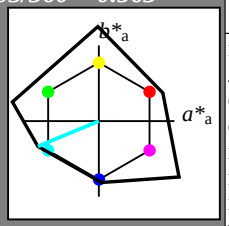
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

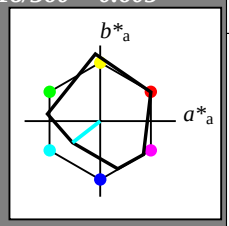
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

$n^* = 0{,}00$

blackness *n**

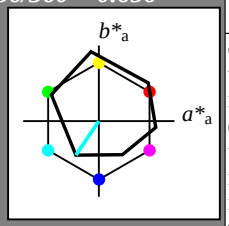
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

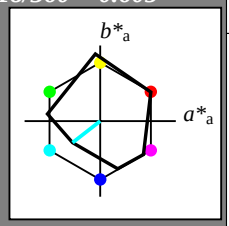
TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

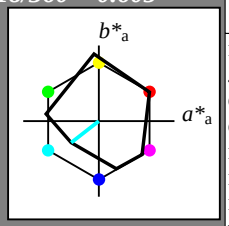
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

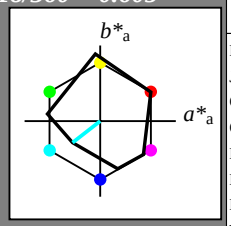
*n** = 1,0

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

$n^* = 0{,}00$

blackness *n**

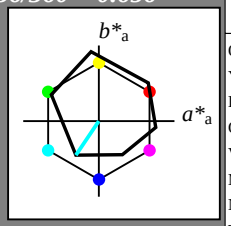
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

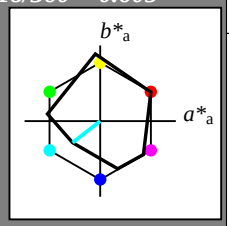
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

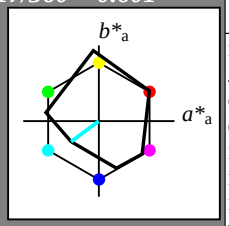
TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

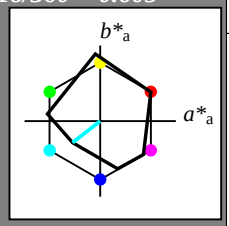
*n** = 1,0

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

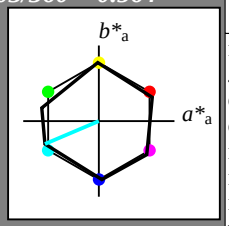
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

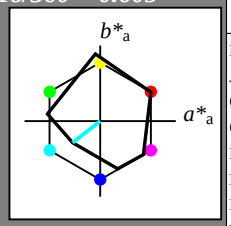
TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

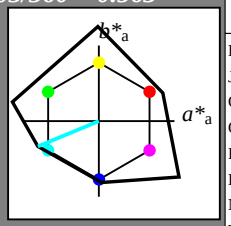
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

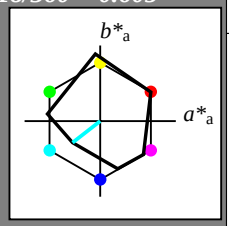
3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

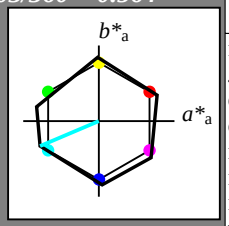
TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

Output: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

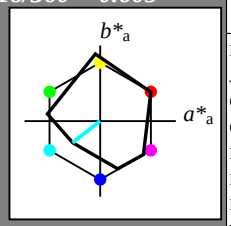
*n** = 1,0

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

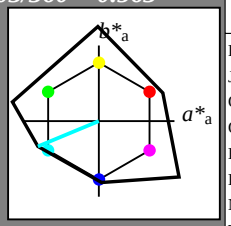
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 149
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

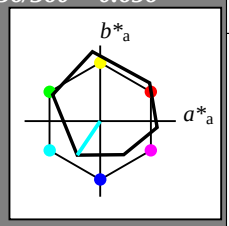
TE100−7, 3 step scales for constant CIELAB hue 218/360 = 0.605 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

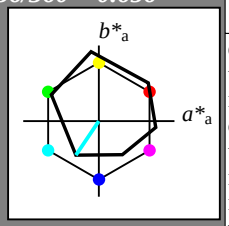
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

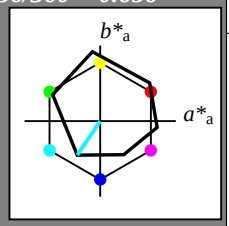
*n** = 1,0

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***n** = 0,00**

blackness *n**

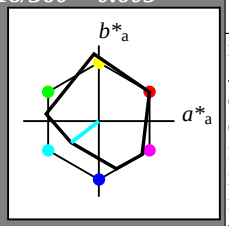
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

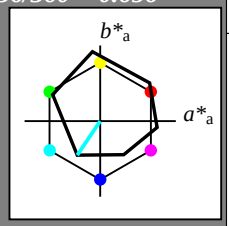
3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

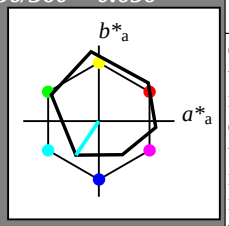
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

Output: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

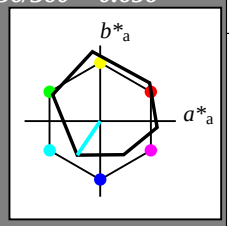
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System TRS18

for hue *h* = lab*h = 236/360 = 0.656*
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

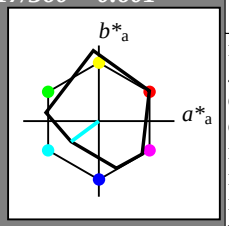
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h* = lab*h = 217/360 = 0.601*
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

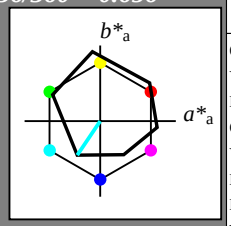
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***n** = 0,00**

blackness *n**

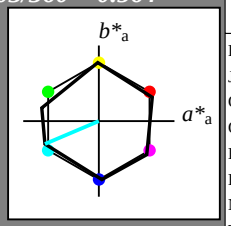
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

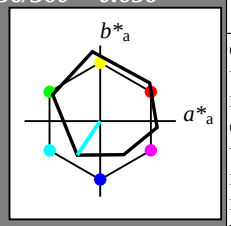
3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 236/360 = 0.656
*lab*tch* and *lab*nch*

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

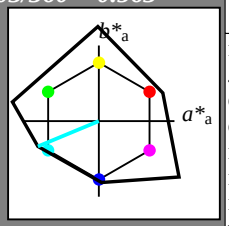
*n** = 1,0

Output: Colorimetric Reflective System NCS18

for hue *h** = *lab*h* = 203/360 = 0.563
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.29	25.34	117.07	167
G50BMa	59.47	−80.61	−33.45	87.29	203
BMa	49.01	3.63	−81.2	81.29	273
B50RMa	44.06	106.07	−73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 136
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

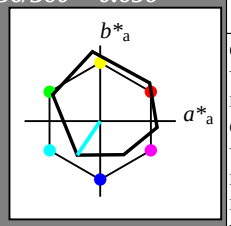
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

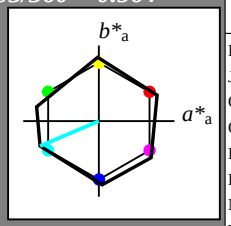
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

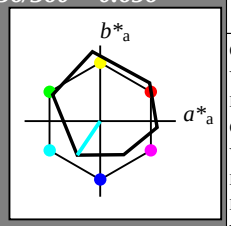
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

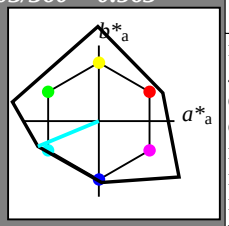
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

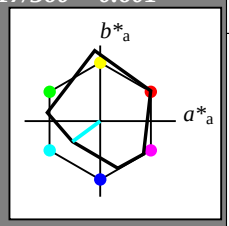
TE100−7, 3 step scales for constant CIELAB hue 236/360 = 0.656 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

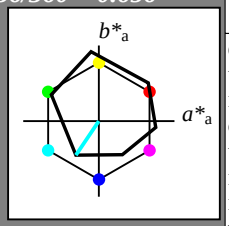
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

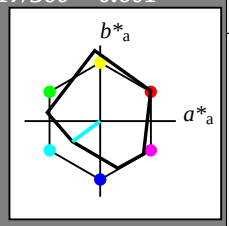
TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

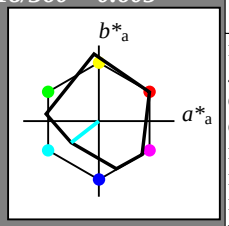
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

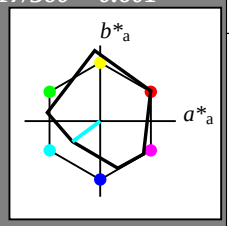
TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

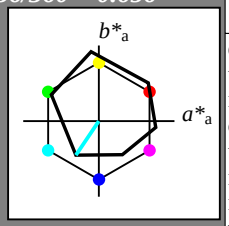
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

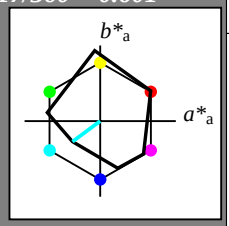
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

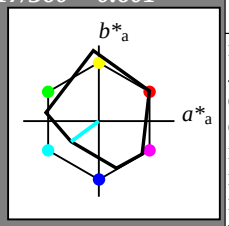
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

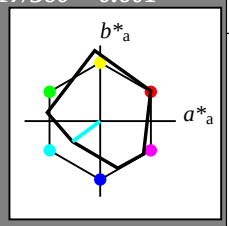
TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

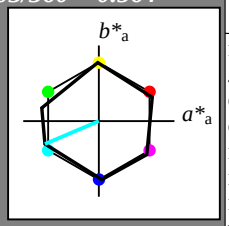
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

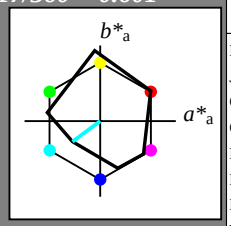
TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

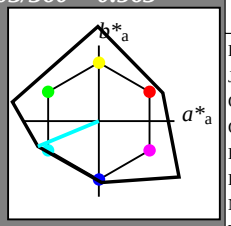
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

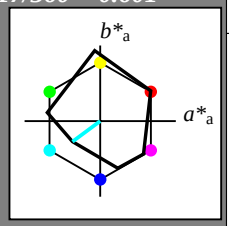
3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 217/360 = 0.601
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

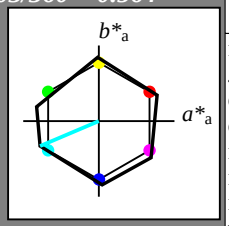
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 203/360 = 0.564
*lab*tch* and *lab*nch*

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

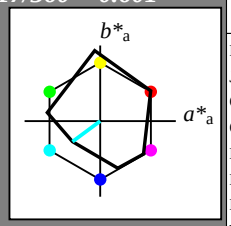
TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

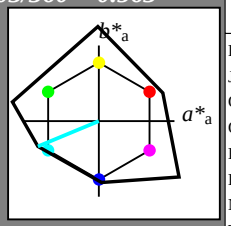
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 217/360 = 0.601 (left)

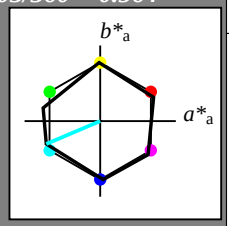
3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NRS18

for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

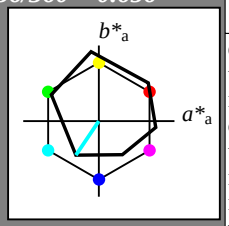
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

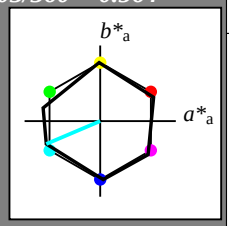
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NRS18

for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

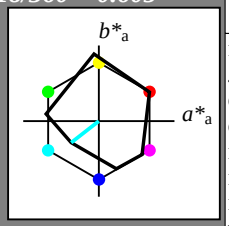
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

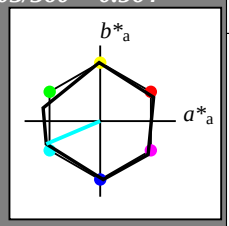
3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System NRS18

for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

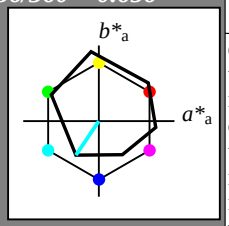
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

Output: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

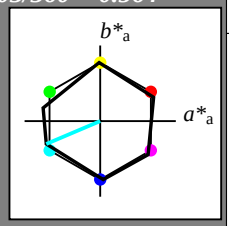
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

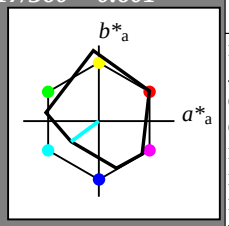
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

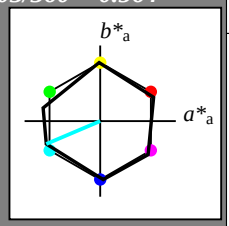
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

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***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

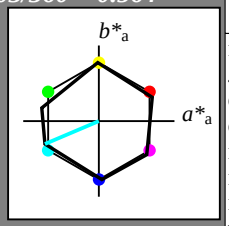
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

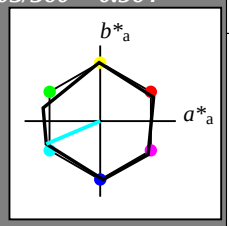
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

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***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

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***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
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***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
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*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

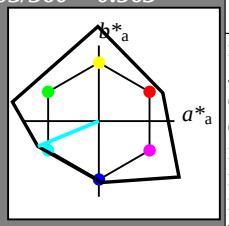
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

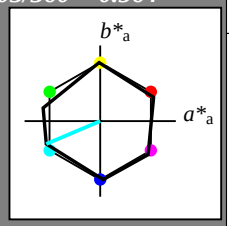
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

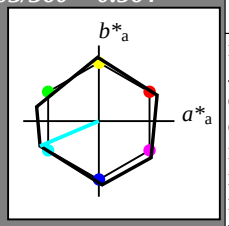
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

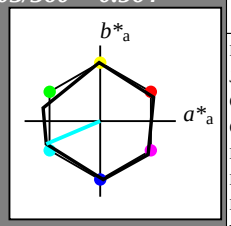
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

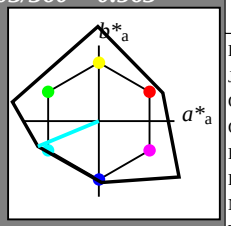
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

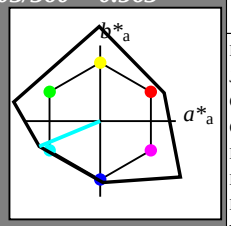
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

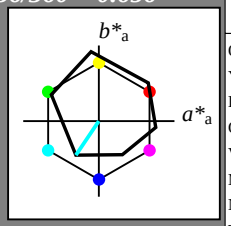
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

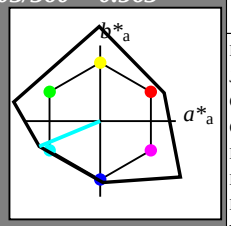
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

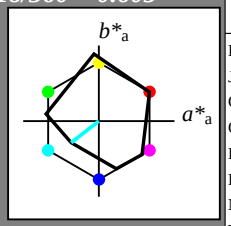
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

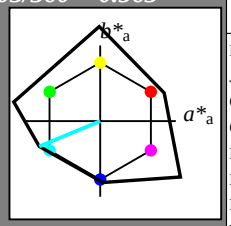
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

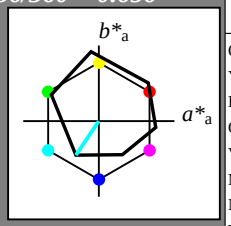
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

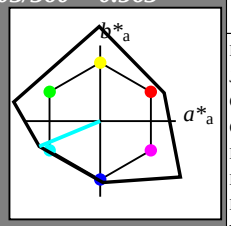
*n** = 1,0

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

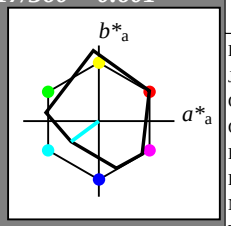
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

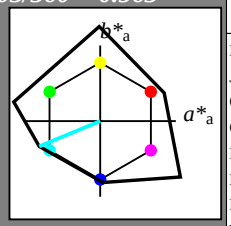
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

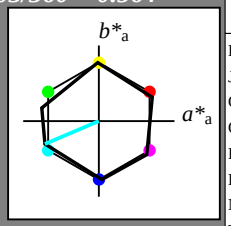
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

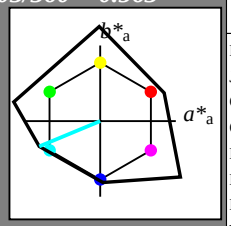
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

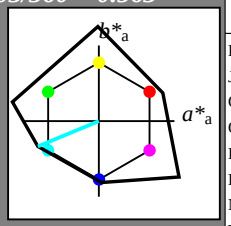
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

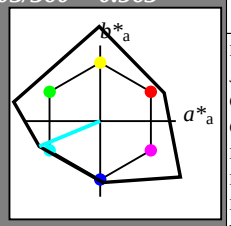
*n** = 1,0

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

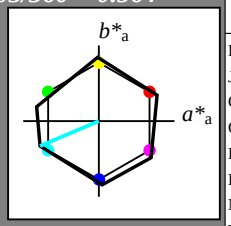
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

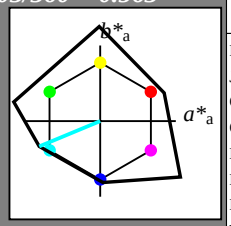
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

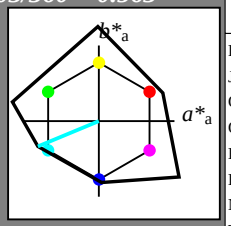
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

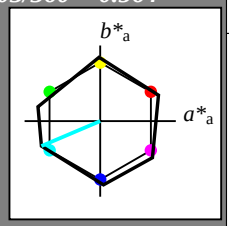
*n** = 1,0

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 119
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

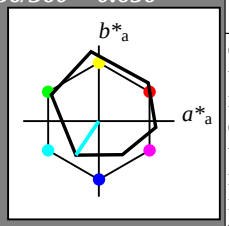
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

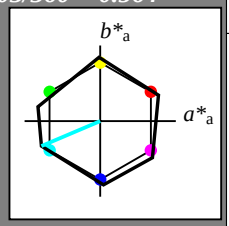
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

***n** = 0,00**

blackness *n**

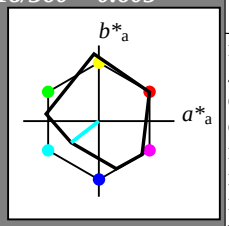
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

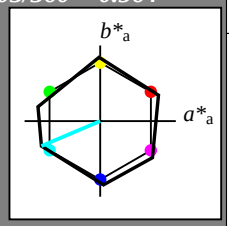
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

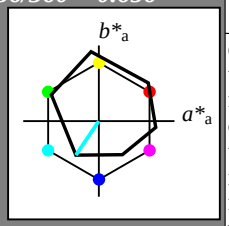
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

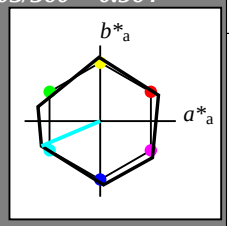
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

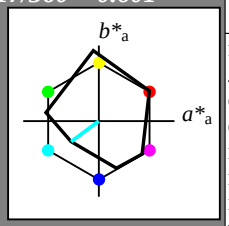
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

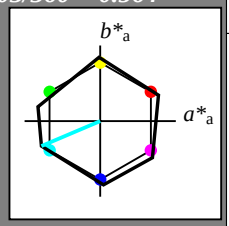
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

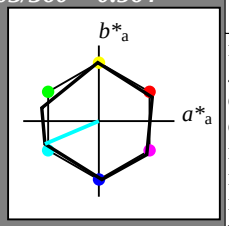
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

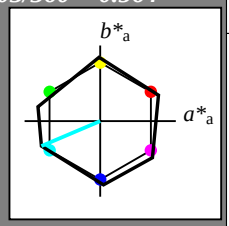
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

$n^* = 0{,}00$

blackness *n**

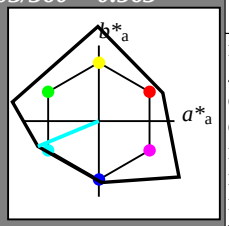
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

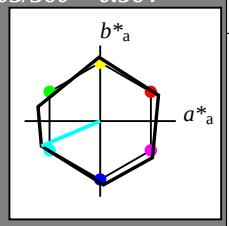
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

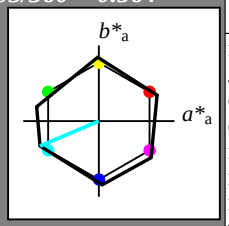
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

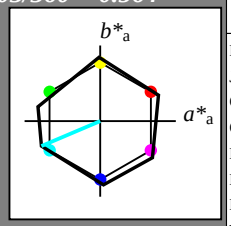
*n** = 1,0

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

***n** = 0,00**

blackness *n**

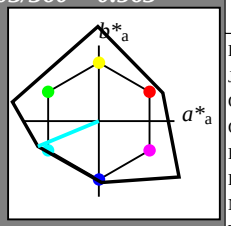
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

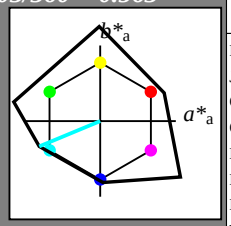
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

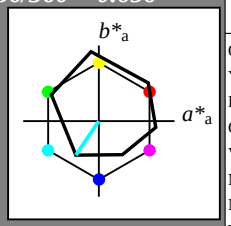
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

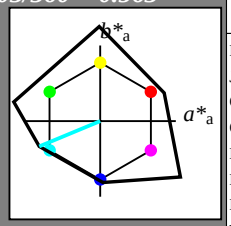
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NCS11

for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

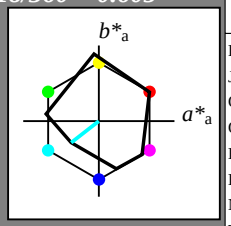
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 218/360 = 0.605**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 218
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.77	−11.17
*LAB*LABa*	70.21	−18.27	−14.23
*LAB*TCHa*	75.0	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.674	−0.393	−0.306
*lab*tch*	0.75	0.5	0.605
*lab*nch*	0.0	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.353	−0.352
*lab*tce*	0.75	0.5	0.625
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.03	−13.78
*LAB*LABa*	31.52	−18.27	−14.23
*LAB*TCHa*	25.01	23.17	217.91

relative* CIELAB *lab*

*lab*lab*	0.175	−0.393	−0.306
*lab*tch*	0.25	0.5	0.605
*lab*nch*	0.5	0.5	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.353	−0.352
*lab*tce*	0.25	0.5	0.625
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.56	−28.47
*LAB*TCHa*	50.0	46.35	217.91

relative* CIELAB *lab*

*lab*lab*	0.349	−0.788	−0.613
*lab*tch*	0.5	1.0	0.605
*lab*nch*	0.0	1.0	0.605

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.706	−0.706
*lab*tce*	0.5	1.0	0.625
*lab*ncE*	0.0	1.0	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

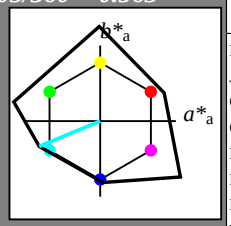
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 218/360 = 0.605 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

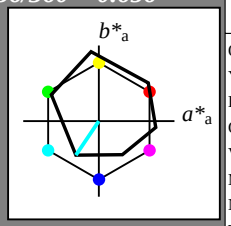
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 236/360 = 0.656**
lab*tch* and *lab*nch

D65: hue C
LCH*Ma: 59 54 236
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.01	−15.79	−18.98
*LAB*LABa*	77.01	−15.16	−22.5
*LAB*TCHa*	75.0	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.762	−0.278	−0.413
*lab*tch*	0.75	0.5	0.656
*lab*nch*	0.0	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.762	−0.247	−0.433
*lab*tce*	0.75	0.5	0.667
*lab*ncE*	0.0	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.32	−15.05	−21.59
*LAB*LABa*	38.32	−15.16	−22.5
*LAB*TCHa*	25.01	27.15	236.01

relative* CIELAB *lab*

*lab*lab*	0.262	−0.278	−0.413
*lab*tch*	0.25	0.5	0.656
*lab*nch*	0.5	0.5	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.262	−0.247	−0.433
*lab*tce*	0.25	0.5	0.667
*lab*ncE*	0.5	0.5	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	58.62	−30.62	−42.73
*LAB*LABa*	58.62	−30.34	−45.01
*LAB*TCHa*	50.0	54.29	236.01

relative* CIELAB *lab*

*lab*lab*	0.525	−0.558	−0.828
*lab*tch*	0.5	1.0	0.656
*lab*nch*	0.0	1.0	0.656

***relative* Natural Colour (NC)**

*lab*lrj*	0.525	−0.496	−0.867
*lab*tce*	0.5	1.0	0.667
*lab*ncE*	0.0	1.0	g66b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

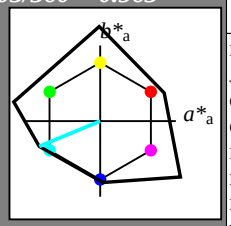
3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

Input: Colorimetric Reflective System NCS11

for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

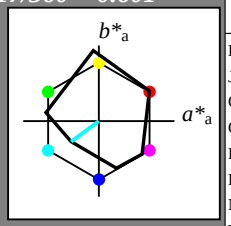
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 217/360 = 0.601**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 45 46 217
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	70.21	−18.28	−13.55
*LAB*LABa*	70.21	−18.31	−13.56
*LAB*TCHa*	75.0	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.674	−0.401	−0.296
*lab*tch*	0.75	0.5	0.601
*lab*nch*	0.0	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.674	−0.355	−0.35
*lab*tce*	0.75	0.5	0.624
*lab*ncE*	0.0	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.52	−18.23	−13.53
*LAB*LABa*	31.52	−18.31	−13.56
*LAB*TCHa*	25.01	22.8	216.52

relative* CIELAB *lab*

*lab*lab*	0.175	−0.401	−0.296
*lab*tch*	0.25	0.5	0.601
*lab*nch*	0.5	0.5	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.175	−0.355	−0.35
*lab*tce*	0.25	0.5	0.624
*lab*ncE*	0.5	0.5	g49b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	45.03	−36.57	−27.11
*LAB*LABa*	45.03	−36.64	−27.13
*LAB*TCHa*	50.0	45.6	216.52

relative* CIELAB *lab*

*lab*lab*	0.349	−0.803	−0.594
*lab*tch*	0.5	1.0	0.601
*lab*nch*	0.0	1.0	0.601

***relative* Natural Colour (NC)**

*lab*lrj*	0.349	−0.71	−0.702
*lab*tce*	0.5	1.0	0.624
*lab*ncE*	0.0	1.0	g49b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

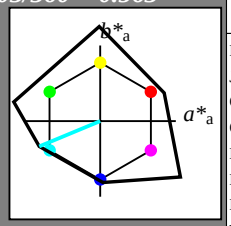
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 217/360 = 0.601 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

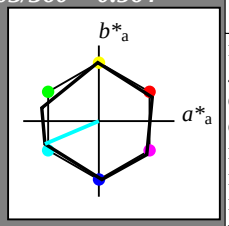
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 57 77 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−35.6	−15.11
*LAB*LABa*	76.05	−35.63	−15.11
*LAB*TCHa*	75.0	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−35.56	−15.09
*LAB*LABa*	37.36	−35.63	−15.11
*LAB*TCHa*	25.01	38.72	202.99

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−71.22	−30.23
*LAB*LABa*	56.7	−71.28	−30.24
*LAB*TCHa*	50.0	77.44	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

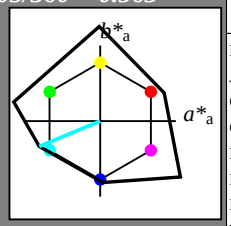
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

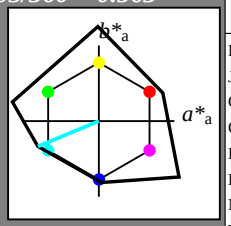
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.768	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.768	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.74	−40.22	−16.7
*LAB*LABa*	38.74	−40.29	−16.72
*LAB*TCHa*	25.01	43.64	202.54

relative* CIELAB *lab*

*lab*lab*	0.268	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.268	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.6	−33.45
*LAB*TCHa*	50.0	87.28	202.54

relative* CIELAB *lab*

*lab*lab*	0.536	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.536	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

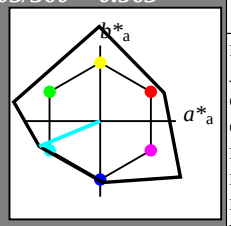
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

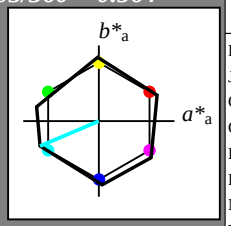
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 203/360 = 0.564**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 53 84 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−38.82	−16.48
*LAB*LABa*	74.3	−38.85	−16.48
*LAB*TCHa*	75.0	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.75	−0.459	−0.194
*lab*tch*	0.75	0.5	0.564
*lab*nch*	0.0	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.416	−0.275
*lab*tce*	0.75	0.5	0.593
*lab*ncE*	0.0	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−38.79	−16.46
*LAB*LABa*	32.1	−38.85	−16.48
*LAB*TCHa*	25.01	42.21	203.0

relative* CIELAB *lab*

*lab*lab*	0.25	−0.459	−0.194
*lab*tch*	0.25	0.5	0.564
*lab*nch*	0.5	0.5	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.416	−0.275
*lab*tce*	0.25	0.5	0.593
*lab*ncE*	0.5	0.5	g37b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−77.67	−32.96
*LAB*LABa*	53.2	−77.71	−32.97
*LAB*TCHa*	50.0	84.43	202.99

relative* CIELAB *lab*

*lab*lab*	0.5	−0.919	−0.39
*lab*tch*	0.5	1.0	0.564
*lab*nch*	0.0	1.0	0.564

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.833	−0.551
*lab*tce*	0.5	1.0	0.593
*lab*ncE*	0.0	1.0	g37b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

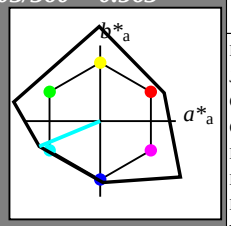
TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

3 step scales for constant CIELAB hue 203/360 = 0.564 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.5	(1.0)
*cmyn3**	1.0	0.5	0.5	(0.0)
*olvi4**	0.5	1.0	1.0	0.5
*cmyn4**	0.5	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.23	−40.23	−16.7
*LAB*LABa*	35.23	−40.29	−16.72
*LAB*TCHa*	25.01	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.287	−0.461	−0.191
*lab*tch*	0.25	0.5	0.563
*lab*nch*	0.5	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.287	−0.418	−0.272
*lab*tce*	0.25	0.5	0.592
*lab*ncE*	0.5	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

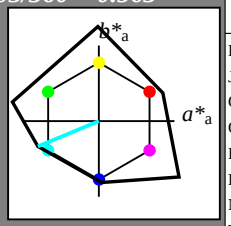
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 203/360 = 0.563 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 203/360 = 0.563**
lab*tch* and *lab*nch

D65: hue G50B
LCH*Ma: 59 87 203
olv*Ma: 0.0 1.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	1.0	(1.0)
*cmyn3**	0.5	0.0	0.0	(0.0)
*olvi4**	0.5	1.0	1.0	1.0
*cmyn4**	0.5	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	77.43	−40.26	−16.71
*LAB*LABa*	77.43	−40.29	−16.72
*LAB*TCHa*	75.0	43.63	202.54

relative* CIELAB *lab*

*lab*lab*	0.787	−0.461	−0.191
*lab*tch*	0.75	0.5	0.563
*lab*nch*	0.0	0.5	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.787	−0.418	−0.272
*lab*tce*	0.75	0.5	0.592
*lab*ncE*	0.0	0.5	g36b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	1.0	0.0	0.0	(0.0)
*olvi4**	0.0	1.0	1.0	1.0
*cmyn4**	1.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	59.47	−80.55	−33.44
*LAB*LABa*	59.47	−80.59	−33.44
*LAB*TCHa*	50.0	87.26	202.54

relative* CIELAB *lab*

*lab*lab*	0.574	−0.922	−0.382
*lab*tch*	0.5	1.0	0.563
*lab*nch*	0.0	1.0	0.563

***relative* Natural Colour (NC)**

*lab*lrj*	0.574	−0.836	−0.546
*lab*tce*	0.5	1.0	0.592
*lab*ncE*	0.0	1.0	g36b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

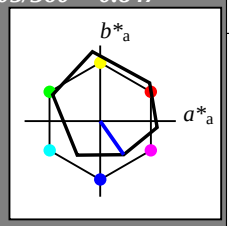
*n** = 1,0

3 step scales for constant CIELAB hue 203/360 = 0.563 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

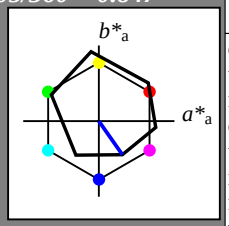
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

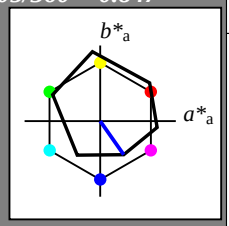
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

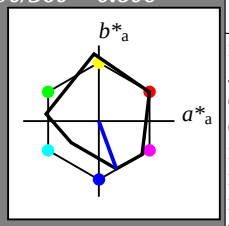
chromaticness c^*

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 290/360 = 0.806
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

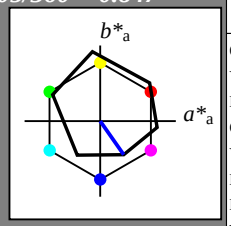
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

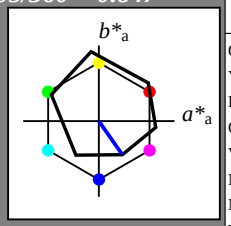
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

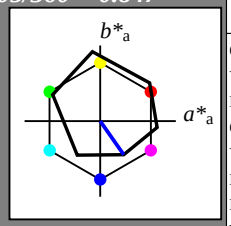
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

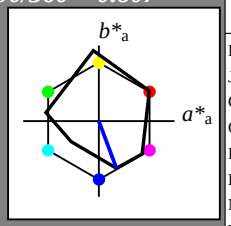
*n** = 0,00
blackness *n**
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 290/360 = 0.807
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
0,25
0,50
*n** = 0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

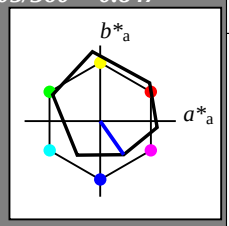
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

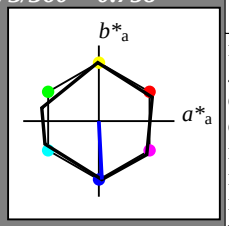
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

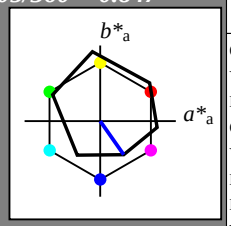
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

$n^* = 0{,}00$

blackness *n**

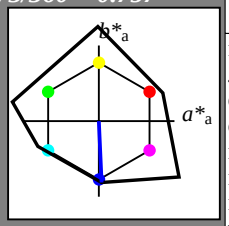
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

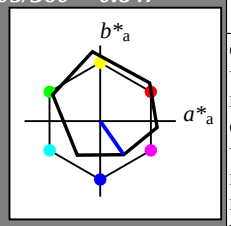
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

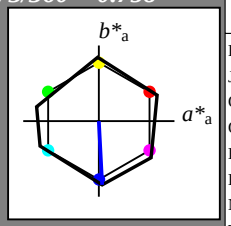
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

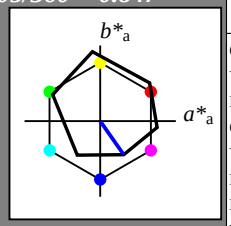
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

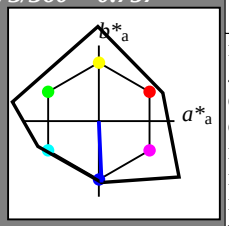
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

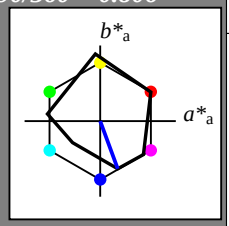
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***n** = 0,00**

blackness *n**

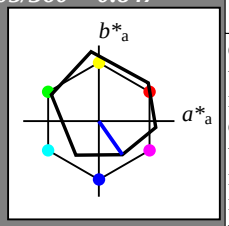
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

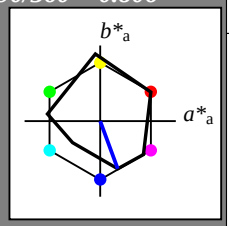
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

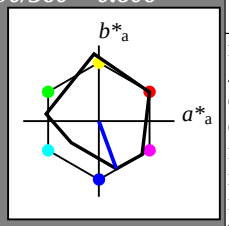
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	1.0	1.0	0.0	0.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

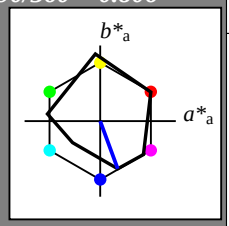
3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

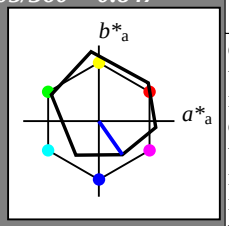
*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

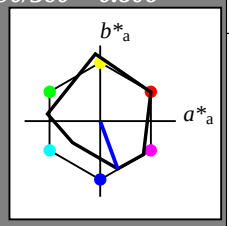
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

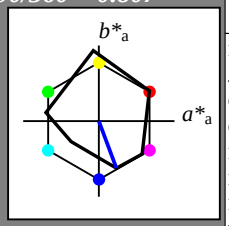
chromaticness *c**

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

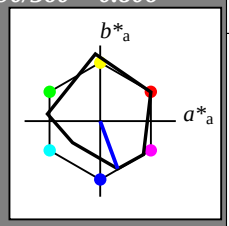
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

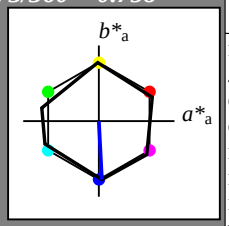
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

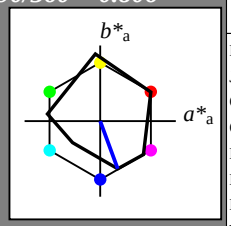
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

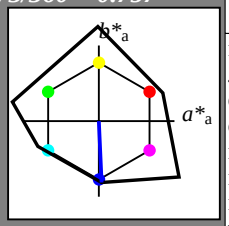
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

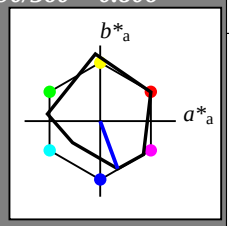
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

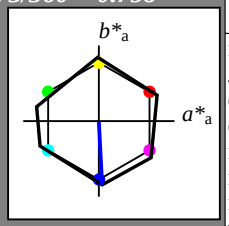
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

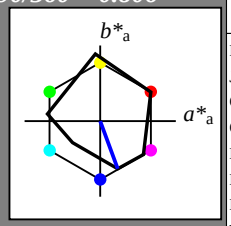
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

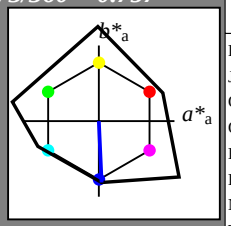
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

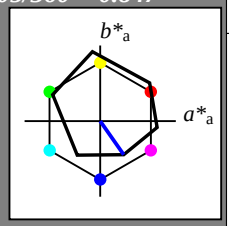
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.806 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

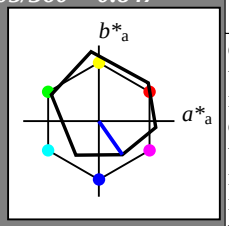
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

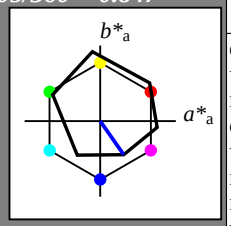
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

n* = 0,00

blackness *n**

0,25 0,50 n* = 0,50 0,75 1,00

chromaticness *c**

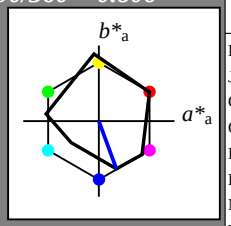
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 290/360 = 0.806
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

n* = 0,00

blackness *n**

0,25 0,50 n* = 0,50 0,75 1,00

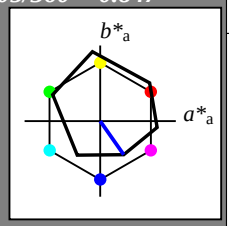
chromaticness *c**

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

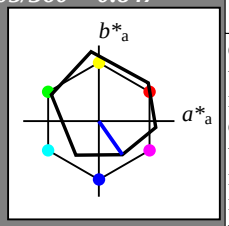
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

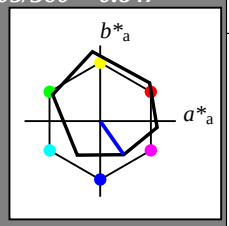
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

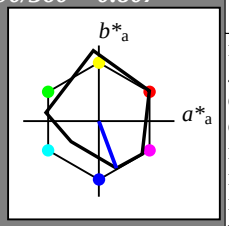
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 290/360 = 0.807
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

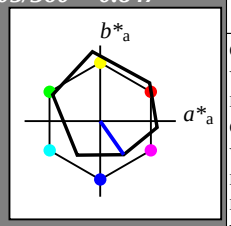
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

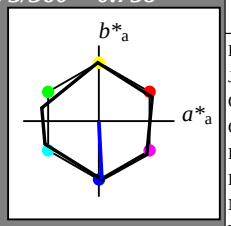
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

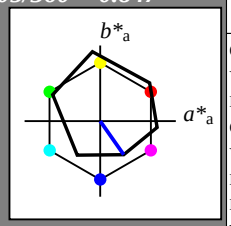
TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

$n^* = 0{,}00$

blackness *n**

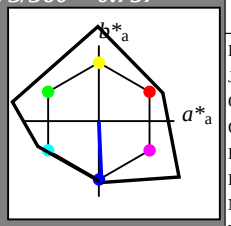
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

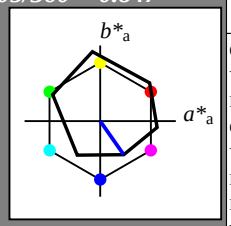
3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

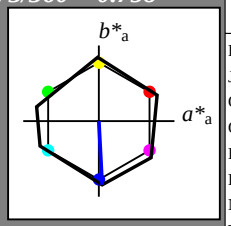
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 273/360 = 0.758
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 119
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

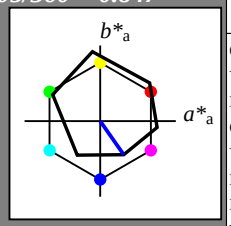
3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 305/360 = 0.847
*lab*tch* and *lab*nch*

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

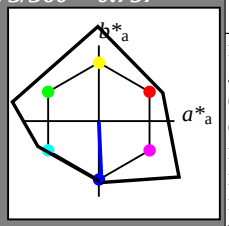
*n** = 1,0

Output: Colorimetric Reflective System NCS11

for hue *h** = *lab*h* = 273/360 = 0.757
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 149
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

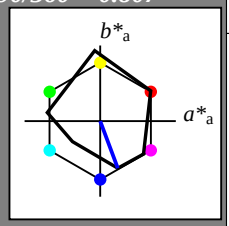
3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

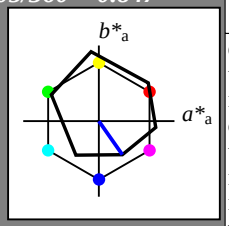
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

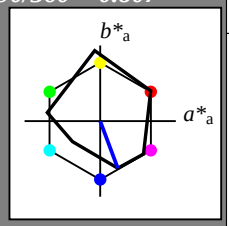
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

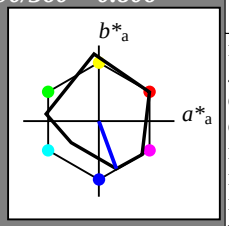
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

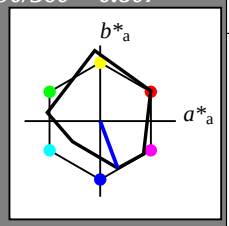
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

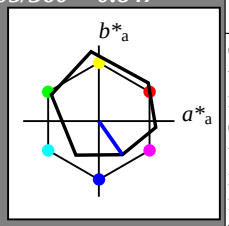
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

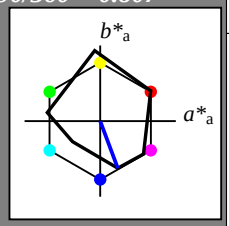
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 290/360 = 0.807
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

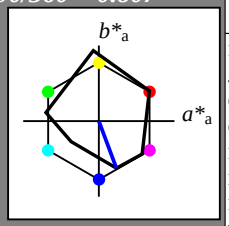
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 290/360 = 0.807
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

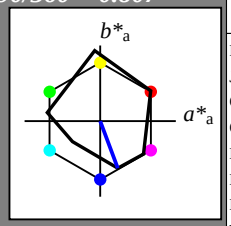
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

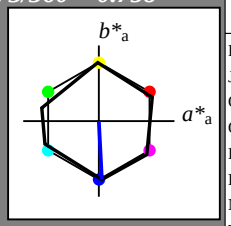
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

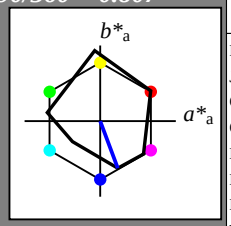
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

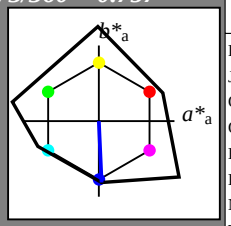
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

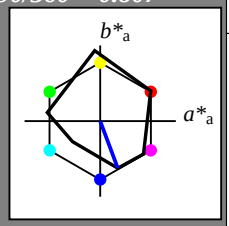
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

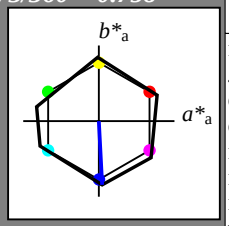
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

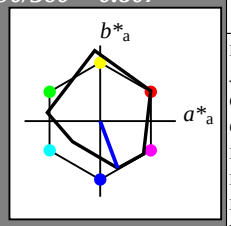
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

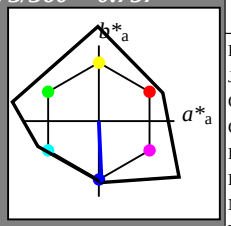
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

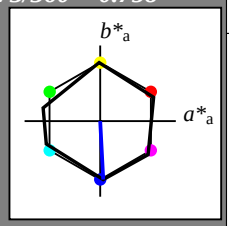
TE100−7, 3 step scales for constant CIELAB hue 290/360 = 0.807 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***n** = 0,00**

blackness *n**

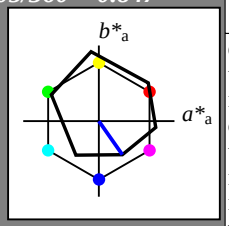
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

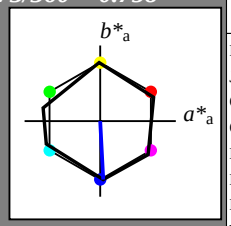
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

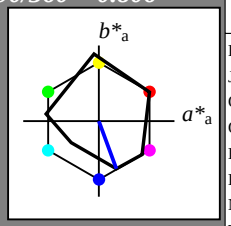
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

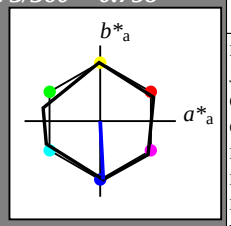
*n** = 1,0

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***n** = 0,00**

blackness *n**

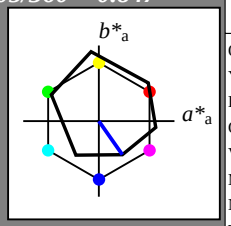
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

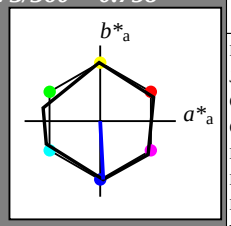
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

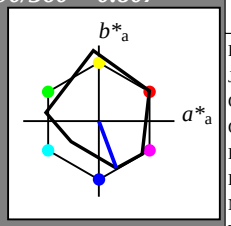
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

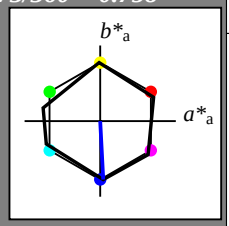
*n** = 1,0

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

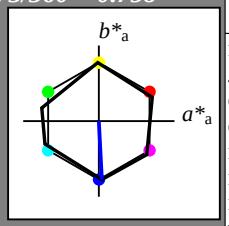
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

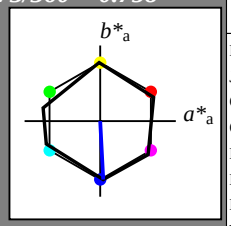
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
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***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

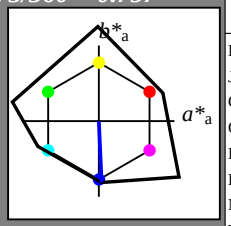
*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

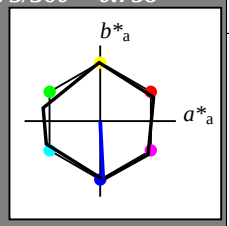
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

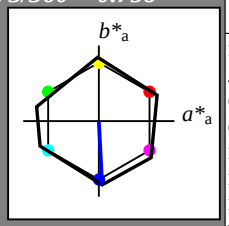
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

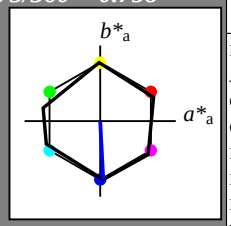
*n** = 1,0

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 100
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

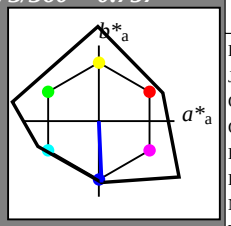
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 149
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

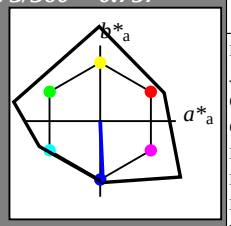
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

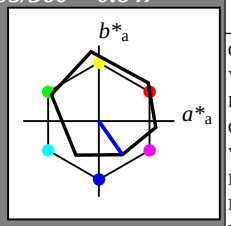
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

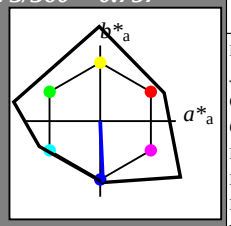
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NCS18

for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

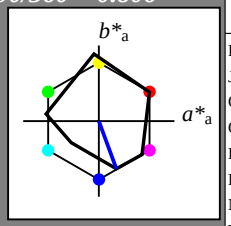
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

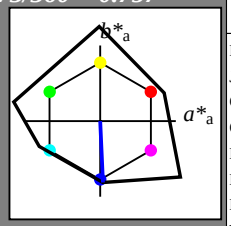
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

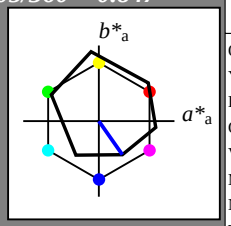
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

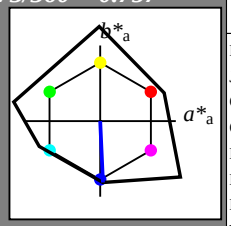
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

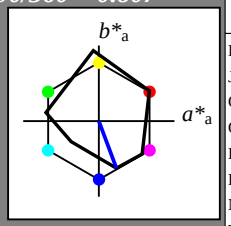
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

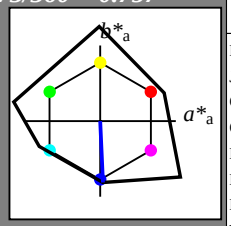
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

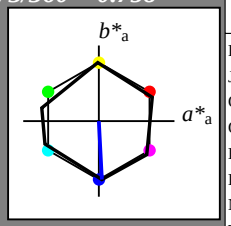
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

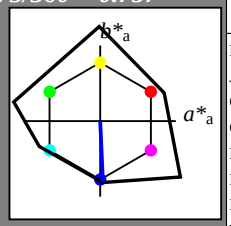
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

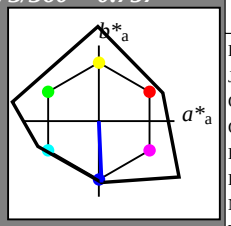
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

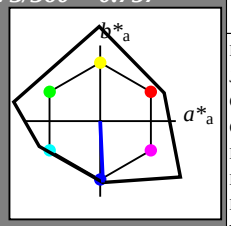
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

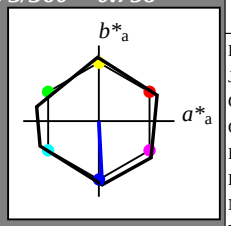
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

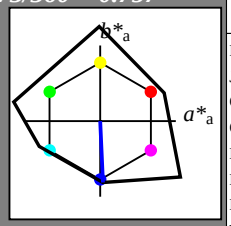
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

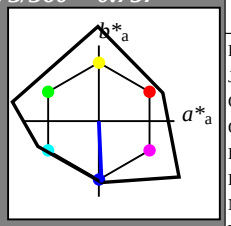
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

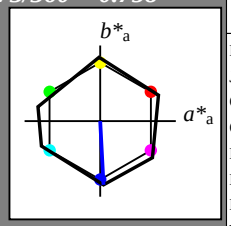
*n** = 1,0

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***n** = 0,00**

blackness *n**

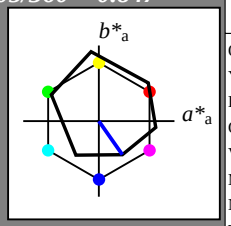
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

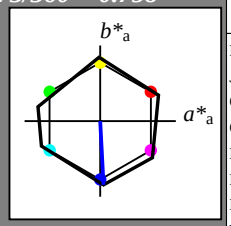
3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 273/360 = 0.758
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

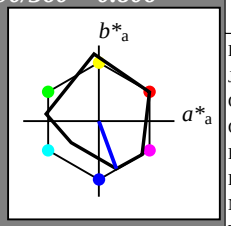
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 290/360 = 0.806
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

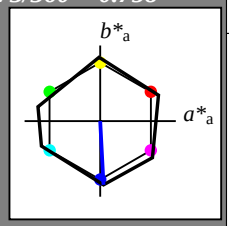
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

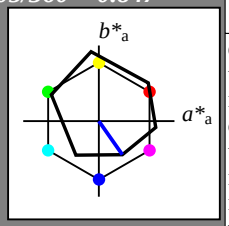
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

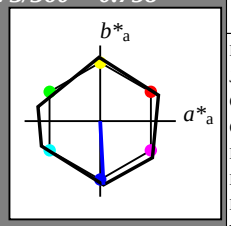
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 119
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

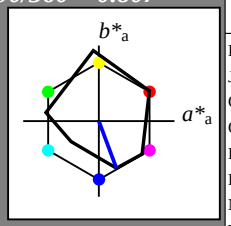
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

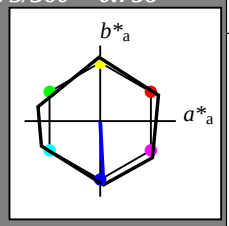
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

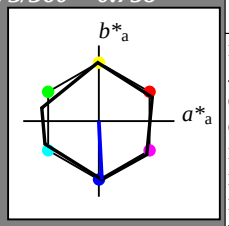
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

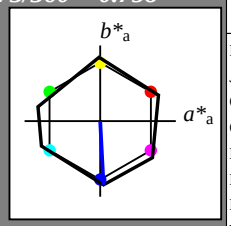
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

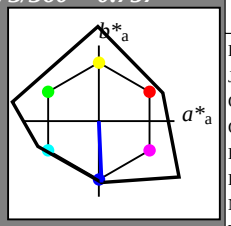
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

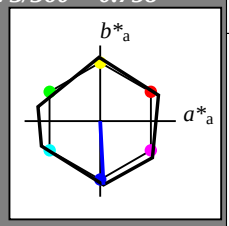
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

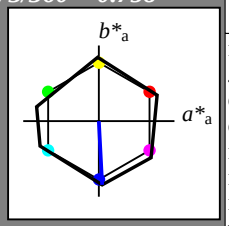
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

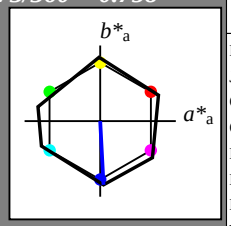
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

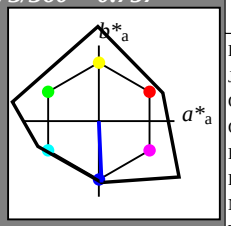
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

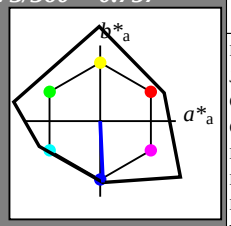
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

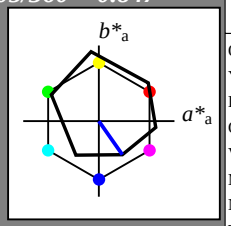
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

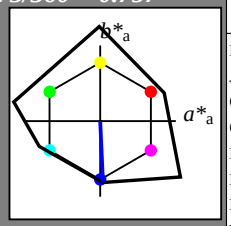
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

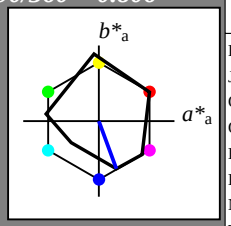
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 290/360 = 0.806**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.17	−28.74
*LAB*LABa*	66.03	11.59	−31.51
*LAB*TCHa*	75.0	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.62	0.173	−0.468
*lab*tch*	0.75	0.5	0.806
*lab*nch*	0.0	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.129	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.92	−31.35
*LAB*LABa*	27.34	11.59	−31.51
*LAB*TCHa*	25.01	33.59	290.19

relative* CIELAB *lab*

*lab*lab*	0.12	0.173	−0.468
*lab*tch*	0.25	0.5	0.806
*lab*nch*	0.5	0.5	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.129	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.18	−63.03
*LAB*TCHa*	50.0	67.17	290.19

relative* CIELAB *lab*

*lab*lab*	0.241	0.345	−0.937
*lab*tch*	0.5	1.0	0.806
*lab*nch*	0.0	1.0	0.806

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

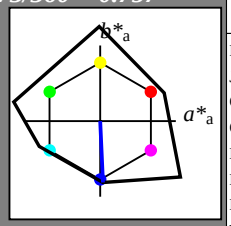
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 290/360 = 0.806 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

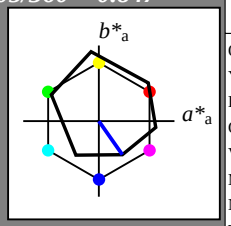
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 305/360 = 0.847**
lab*tch* and *lab*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	60.56	15.24	−19.79
*LAB*LABa*	60.56	15.55	−22.2
*LAB*TCHa*	75.0	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.55	0.287	−0.408
*lab*tch*	0.75	0.5	0.847
*lab*nch*	0.0	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.55	0.225	−0.446
*lab*tce*	0.75	0.5	0.824
*lab*ncE*	0.0	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	21.87	15.98	−22.4
*LAB*LABa*	21.87	15.55	−22.2
*LAB*TCHa*	25.01	27.11	305.0

relative* CIELAB *lab*

*lab*lab*	0.05	0.287	−0.408
*lab*tch*	0.25	0.5	0.847
*lab*nch*	0.5	0.5	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.05	0.225	−0.446
*lab*tce*	0.25	0.5	0.824
*lab*ncE*	0.5	0.5	b29r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	25.72	31.46	−44.36
*LAB*LABa*	25.72	31.1	−44.41
*LAB*TCHa*	50.0	54.23	305.0

relative* CIELAB *lab*

*lab*lab*	0.1	0.573	−0.818
*lab*tch*	0.5	1.0	0.847
*lab*nch*	0.0	1.0	0.847

***relative* Natural Colour (NC)**

*lab*lrj*	0.1	0.449	−0.892
*lab*tce*	0.5	1.0	0.824
*lab*ncE*	0.0	1.0	b29r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

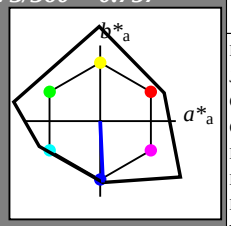
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

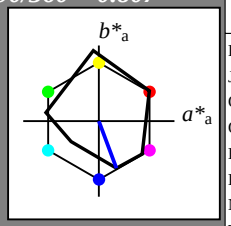
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 290/360 = 0.807**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 37 66 290
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	66.03	11.67	−31.12
*LAB*LABa*	66.03	11.63	−31.13
*LAB*TCHa*	75.0	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.62	0.175	−0.467
*lab*tch*	0.75	0.5	0.807
*lab*nch*	0.0	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.62	0.128	−0.482
*lab*tce*	0.75	0.5	0.791
*lab*ncE*	0.0	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.34	11.71	−31.1
*LAB*LABa*	27.34	11.63	−31.13
*LAB*TCHa*	25.01	33.24	290.48

relative* CIELAB *lab*

*lab*lab*	0.12	0.175	−0.467
*lab*tch*	0.25	0.5	0.807
*lab*nch*	0.5	0.5	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.12	0.128	−0.482
*lab*tce*	0.25	0.5	0.791
*lab*ncE*	0.5	0.5	b16r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	36.65	23.33	−62.24
*LAB*LABa*	36.65	23.25	−62.26
*LAB*TCHa*	50.0	66.47	290.48

relative* CIELAB *lab*

*lab*lab*	0.241	0.35	−0.936
*lab*tch*	0.5	1.0	0.807
*lab*nch*	0.0	1.0	0.807

***relative* Natural Colour (NC)**

*lab*lrj*	0.241	0.257	−0.965
*lab*tce*	0.5	1.0	0.791
*lab*ncE*	0.0	1.0	b16r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

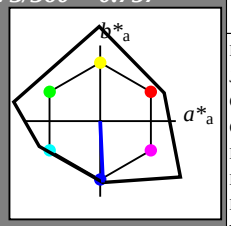
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

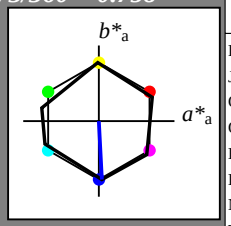
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 77 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	2.03	−38.63
*LAB*LABa*	76.05	2.0	−38.64
*LAB*TCHa*	75.0	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	2.07	−38.61
*LAB*LABa*	37.36	2.0	−38.64
*LAB*TCHa*	25.01	38.7	272.96

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	4.05	−77.27
*LAB*LABa*	56.7	4.0	−77.28
*LAB*TCHa*	50.0	77.4	272.96

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

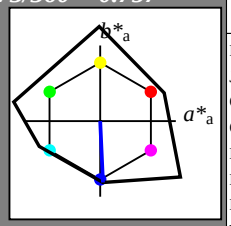
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NCS11
for hue $h^* = lab^*h = 273/360 = 0.757$
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

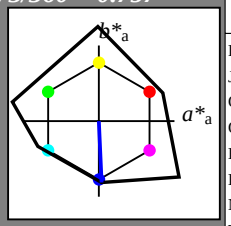
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

Output: Colorimetric Reflective System NCS18
for hue $h^* = lab^*h = 273/360 = 0.757$
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.59
*LAB*TCHa*	75.0	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.7	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.7	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.52	1.9	−40.56
*LAB*LABa*	33.52	1.82	−40.59
*LAB*TCHa*	25.01	40.64	272.56

relative* CIELAB *lab*

*lab*lab*	0.2	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.2	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.63	−81.18
*LAB*TCHa*	50.0	81.27	272.56

relative* CIELAB *lab*

*lab*lab*	0.401	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.401	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

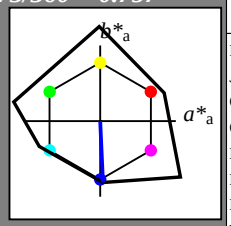
*n** = 1,0

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

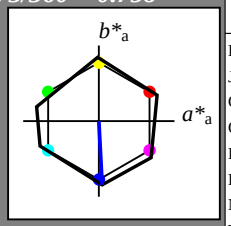
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 273/360 = 0.758**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 84 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	2.21	−42.13
*LAB*LABa*	74.3	2.19	−42.13
*LAB*TCHa*	75.0	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.026	−0.498
*lab*tch*	0.75	0.5	0.758
*lab*nch*	0.0	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.009	−0.499
*lab*tce*	0.75	0.5	0.753
*lab*ncE*	0.0	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	2.25	−42.11
*LAB*LABa*	32.1	2.19	−42.13
*LAB*TCHa*	25.01	42.2	272.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.026	−0.498
*lab*tch*	0.25	0.5	0.758
*lab*nch*	0.5	0.5	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.009	−0.499
*lab*tce*	0.25	0.5	0.753
*lab*ncE*	0.5	0.5	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	4.42	−84.26
*LAB*LABa*	53.2	4.37	−84.27
*LAB*TCHa*	50.0	84.39	272.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.052	−0.997
*lab*tch*	0.5	1.0	0.758
*lab*nch*	0.0	1.0	0.758

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.018	−0.999
*lab*tce*	0.5	1.0	0.753
*lab*ncE*	0.0	1.0	b01r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

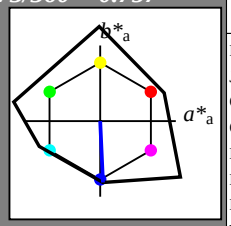
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.758 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

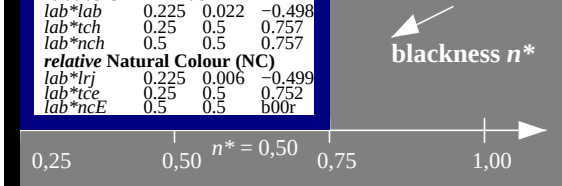
*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

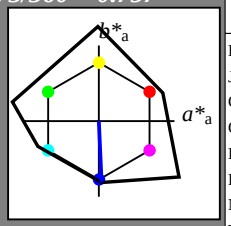
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–



Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 273/360 = 0.757**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	1.0	(1.0)
*cmyn3**	0.5	0.5	0.0	(0.0)
*olvi4**	0.5	0.5	1.0	1.0
*cmyn4**	0.5	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.21	1.85	−40.58
*LAB*LABa*	72.21	1.82	−40.58
*LAB*TCHa*	75.0	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.725	0.022	−0.498
*lab*tch*	0.75	0.5	0.757
*lab*nch*	0.0	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	0.006	−0.499
*lab*tce*	0.75	0.5	0.752
*lab*ncE*	0.0	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.5	(1.0)
*cmyn3**	1.0	1.0	0.5	(0.0)
*olvi4**	0.5	0.5	1.0	0.5
*cmyn4**	0.5	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.01	1.89	−40.56
*LAB*LABa*	30.01	1.82	−40.58
*LAB*TCHa*	25.01	40.63	272.57

relative* CIELAB *lab*

*lab*lab*	0.225	0.022	−0.498
*lab*tch*	0.25	0.5	0.757
*lab*nch*	0.5	0.5	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	0.006	−0.499
*lab*tce*	0.25	0.5	0.752
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	1.0	(1.0)
*cmyn3**	1.0	1.0	0.0	(0.0)
*olvi4**	0.0	0.0	1.0	1.0
*cmyn4**	1.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.02	3.7	−81.16
*LAB*LABa*	49.02	3.65	−81.18
*LAB*TCHa*	50.0	81.27	272.57

relative* CIELAB *lab*

*lab*lab*	0.45	0.045	−0.998
*lab*tch*	0.5	1.0	0.757
*lab*nch*	0.0	1.0	0.757

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	0.013	−0.999
*lab*tce*	0.5	1.0	0.752
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

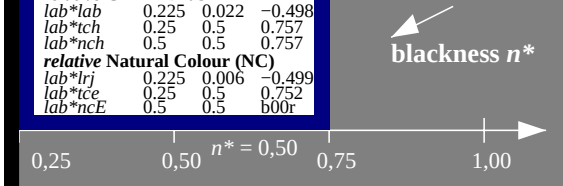
*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–



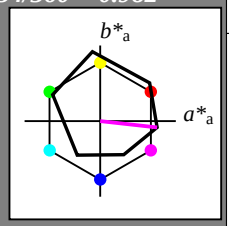
TE100−7, 3 step scales for constant CIELAB hue 273/360 = 0.757 (left)

3 step scales for constant CIELAB hue 273/360 = 0.757 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

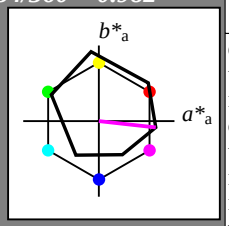
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

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*lab*lab*	0.195	0.497	−0.054
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*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

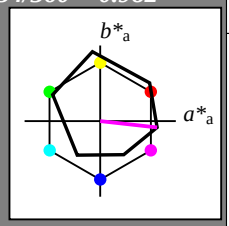
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

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*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

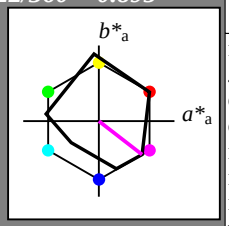
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

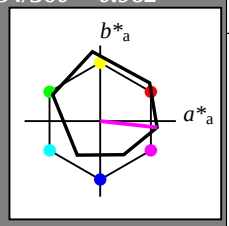
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

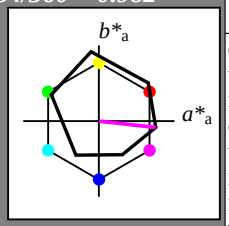
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

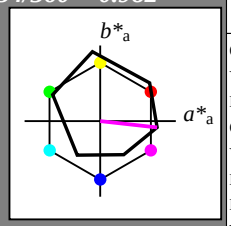
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

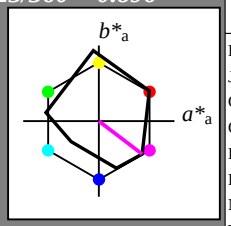
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

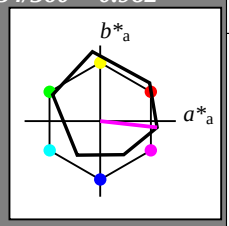
3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 354/360 = 0.982
*lab*tch* and *lab*nch*

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

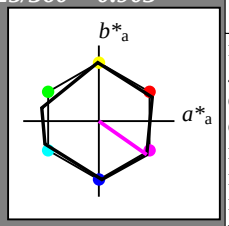
$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 325/360 = 0.903
*lab*tch* and *lab*nch*

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

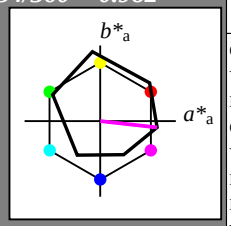
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

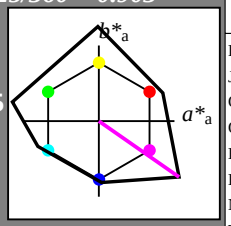
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

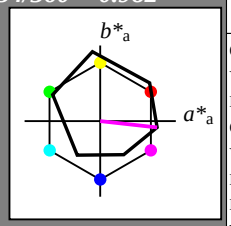
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

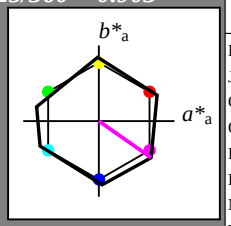
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

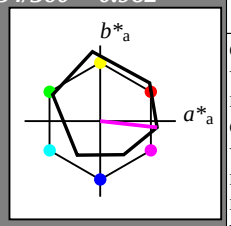
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

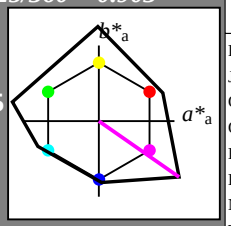
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

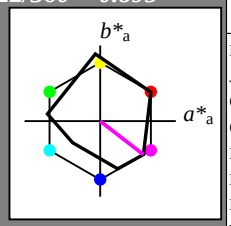
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

***n** = 0,00**

blackness *n**

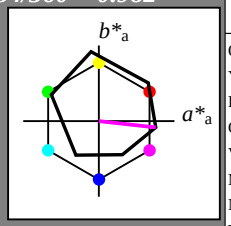
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

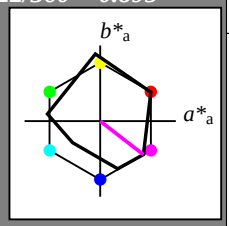
TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

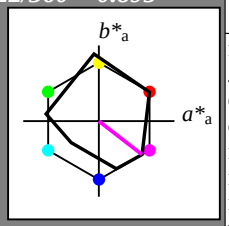
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

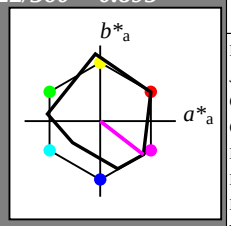
*n** = 1,0

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

***n** = 0,00**

blackness *n**

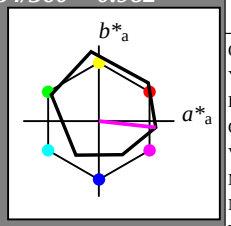
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

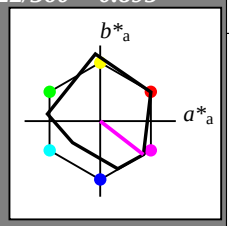
TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

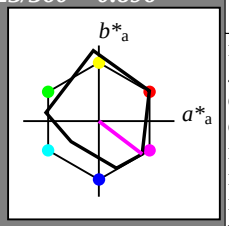
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

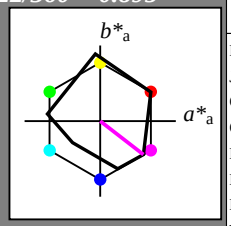
chromaticness *c**

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

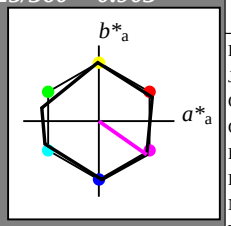
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

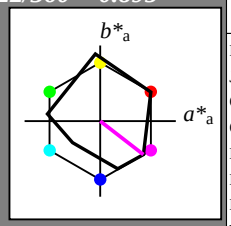
TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

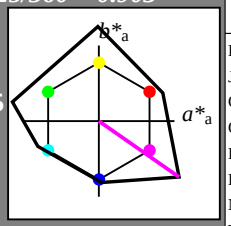
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

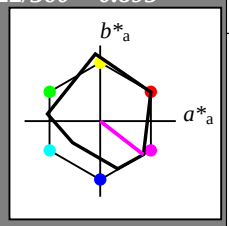
TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

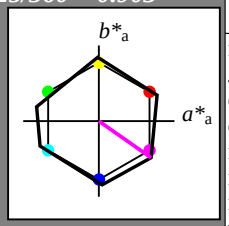
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

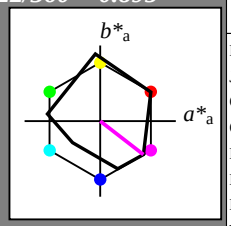
TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

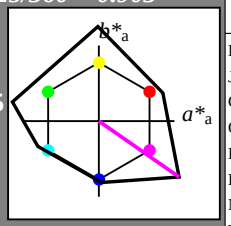
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

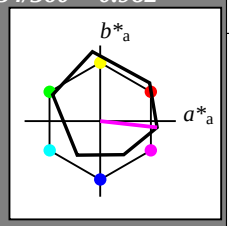
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

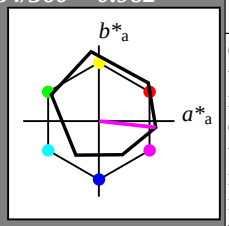
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

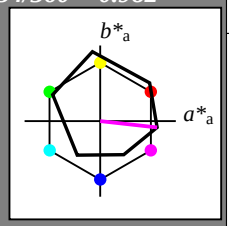
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

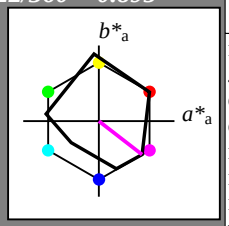
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

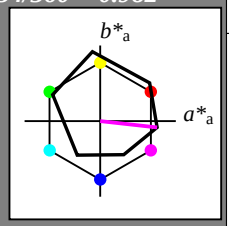
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

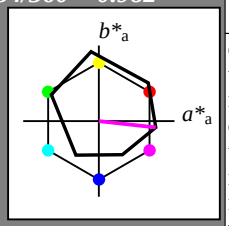
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

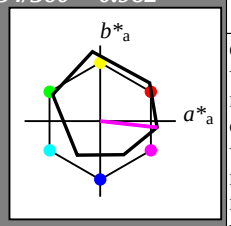
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

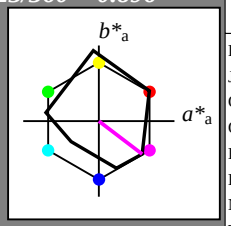
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

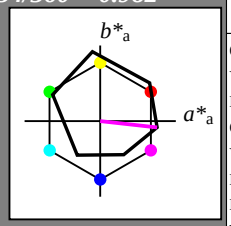
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

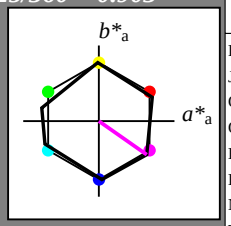
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

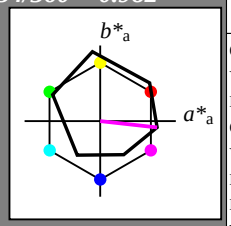
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

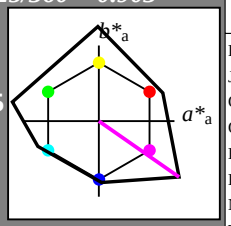
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

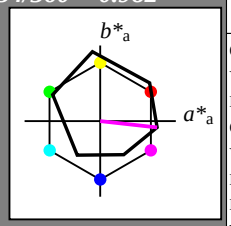
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

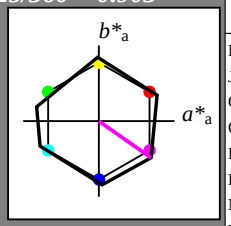
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

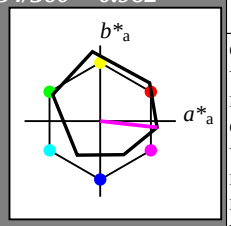
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

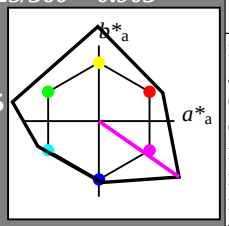
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

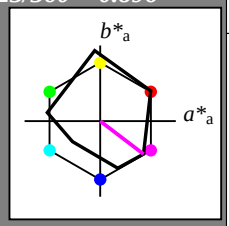
TE100−7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

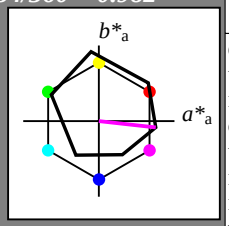
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

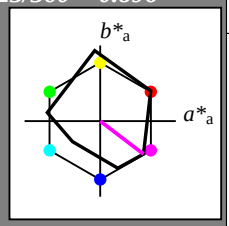
TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

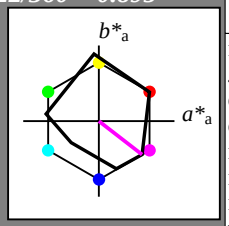
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

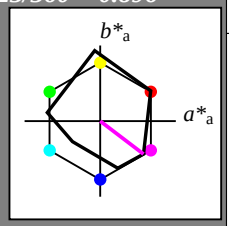
TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

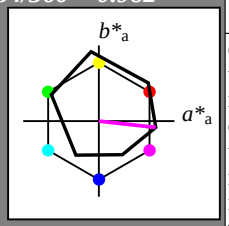
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

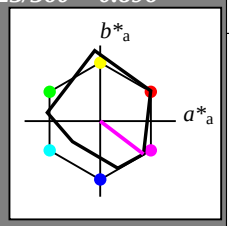
TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

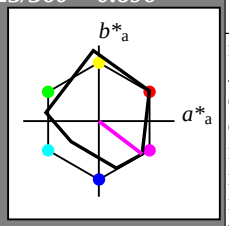
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

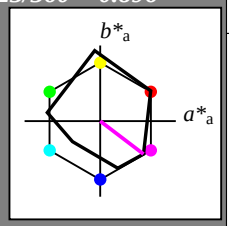
TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

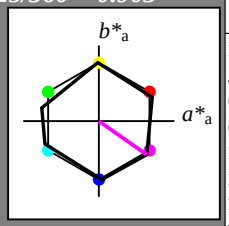
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

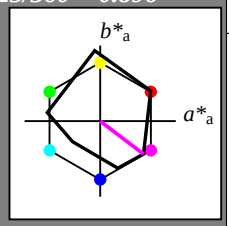
TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

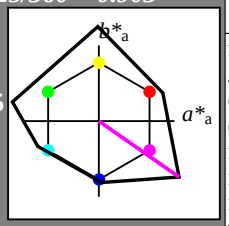
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

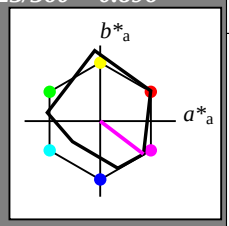
3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

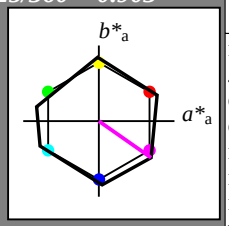
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

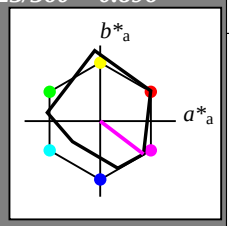
TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

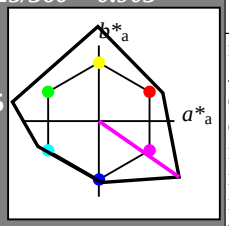
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

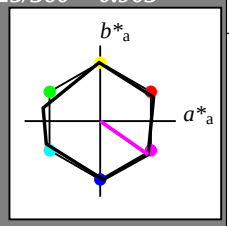
TE100−7, 3 step scales for constant CIELAB hue 323/360 = 0.896 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 100
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

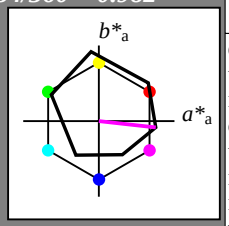
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

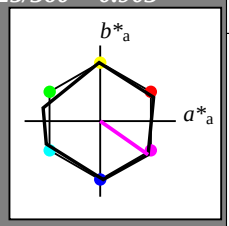
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

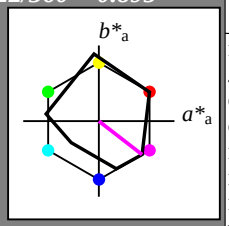
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

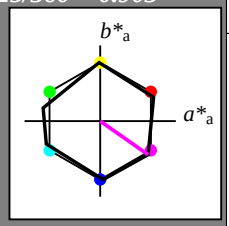
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

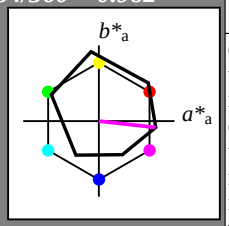
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

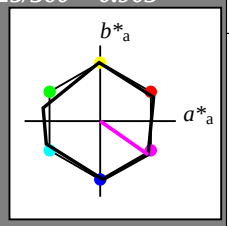
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

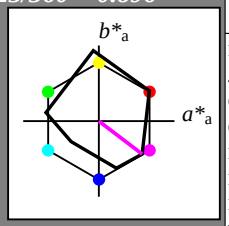
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

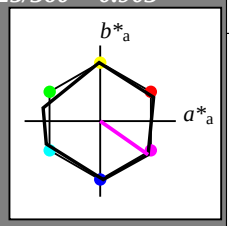
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

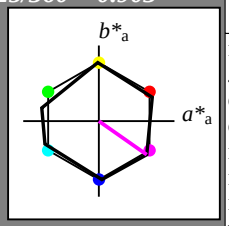
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

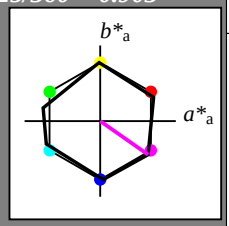
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

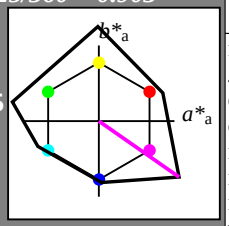
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

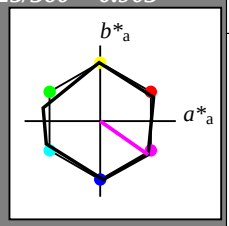
3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS18

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

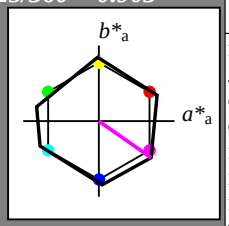
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

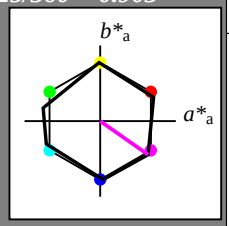
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

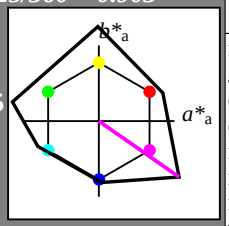
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

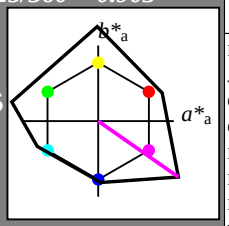
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

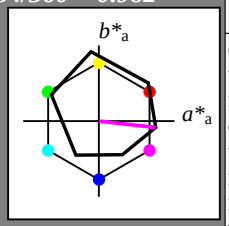
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

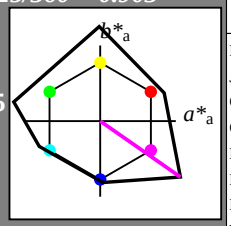
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

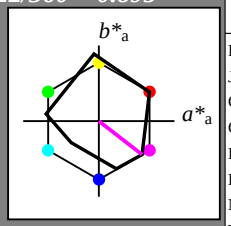
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

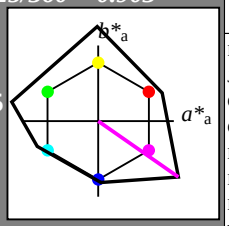
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

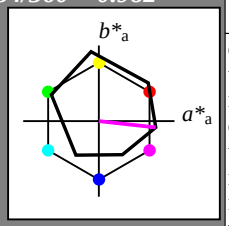
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

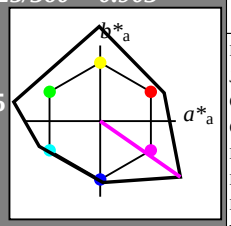
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

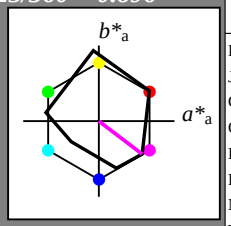
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

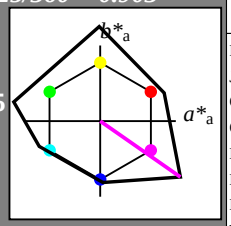
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

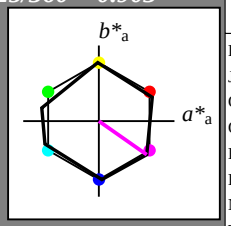
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

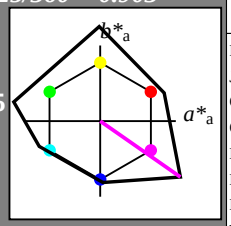
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

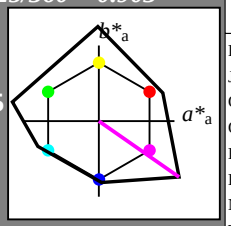
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

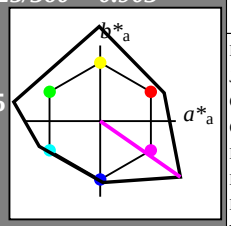
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

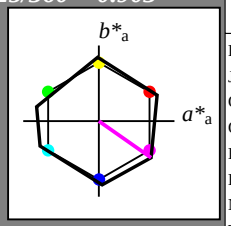
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

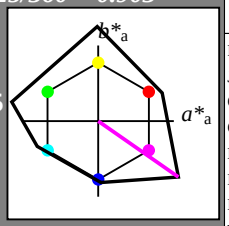
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

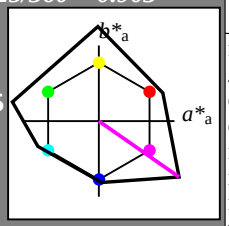
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

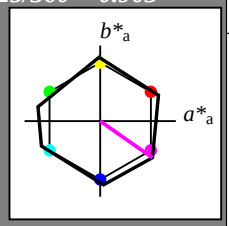
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

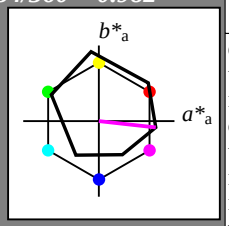
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

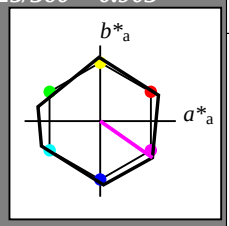
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

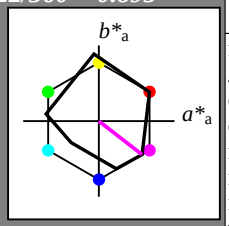
chromaticness *c**

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

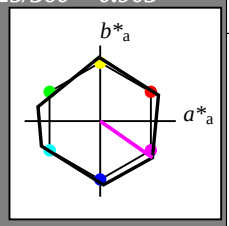
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 119
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

***n** = 0,00**

blackness *n**

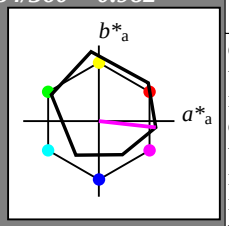
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

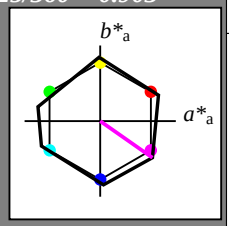
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

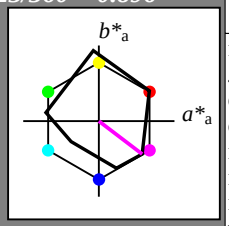
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

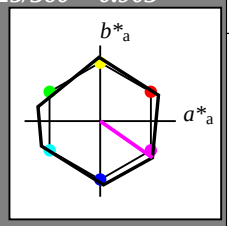
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

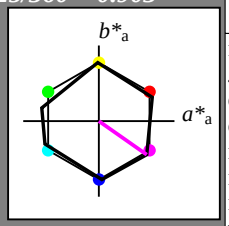
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

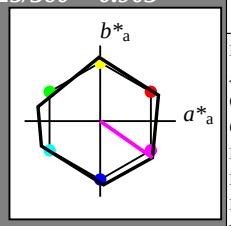
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

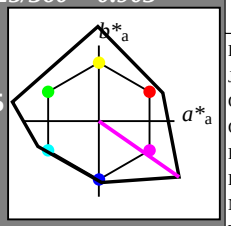
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

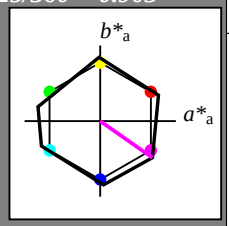
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

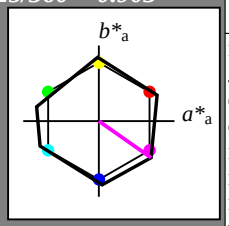
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

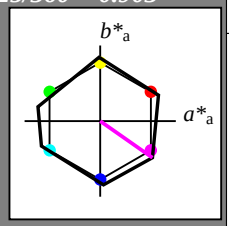
3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

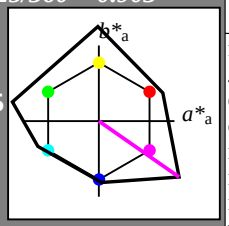
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NCS11

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

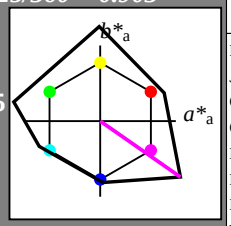
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

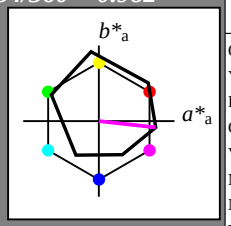
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

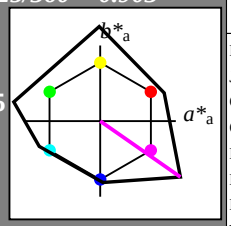
3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NCS11

for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

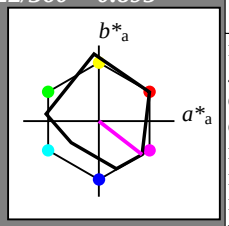
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 322/360 = 0.895**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.18	−19.4
*LAB*LABa*	65.17	28.58	−22.12
*LAB*TCHa*	75.0	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.609	0.395	−0.305
*lab*tch*	0.75	0.5	0.895
*lab*nch*	0.0	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.92	−22.01
*LAB*LABa*	26.48	28.58	−22.12
*LAB*TCHa*	25.01	36.15	322.25

relative* CIELAB *lab*

*lab*lab*	0.109	0.395	−0.305
*lab*tch*	0.25	0.5	0.895
*lab*nch*	0.5	0.5	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.16	−44.25
*LAB*TCHa*	50.0	72.29	322.25

relative* CIELAB *lab*

*lab*lab*	0.219	0.791	−0.611
*lab*tch*	0.5	1.0	0.895
*lab*nch*	0.0	1.0	0.895

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.76
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

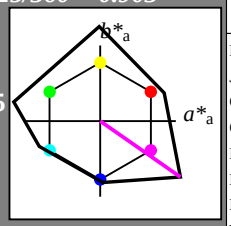
*n** = 1,0

3 step scales for constant CIELAB hue 322/360 = 0.895 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

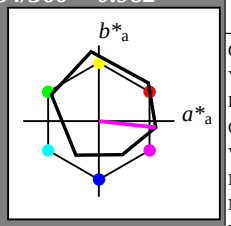
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 354/360 = 0.982**
lab*tch* and *lab*nch

D65: hue M
LCH*Ma: 48 76 354
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.77	37.1	−1.01
*LAB*LABa*	71.77	37.63	−4.17
*LAB*TCHa*	75.0	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.695	0.497	−0.054
*lab*tch*	0.75	0.5	0.982
*lab*nch*	0.0	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.454	−0.208
*lab*tce*	0.75	0.5	0.932
*lab*ncE*	0.0	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.08	37.84	−3.62
*LAB*LABa*	33.08	37.63	−4.17
*LAB*TCHa*	25.01	37.86	353.66

relative* CIELAB *lab*

*lab*lab*	0.195	0.497	−0.054
*lab*tch*	0.25	0.5	0.982
*lab*nch*	0.5	0.5	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.454	−0.208
*lab*tce*	0.25	0.5	0.932
*lab*ncE*	0.5	0.5	b72r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.14	75.18	−6.78
*LAB*LABa*	48.14	75.25	−8.35
*LAB*TCHa*	50.0	75.71	353.66

relative* CIELAB *lab*

*lab*lab*	0.389	0.994	−0.109
*lab*tch*	0.5	1.0	0.982
*lab*nch*	0.0	1.0	0.982

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	0.909	−0.416
*lab*tce*	0.5	1.0	0.932
*lab*ncE*	0.0	1.0	b72r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

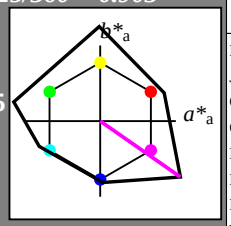
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

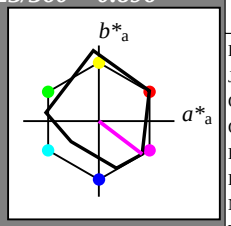
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 323/360 = 0.896**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 35 72 323
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.17	28.68	−21.78
*LAB*LABa*	65.17	28.63	−21.79
*LAB*TCHa*	75.0	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.609	0.398	−0.302
*lab*tch*	0.75	0.5	0.896
*lab*nch*	0.0	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.609	0.324	−0.38
*lab*tce*	0.75	0.5	0.862
*lab*ncE*	0.0	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	26.48	28.72	−21.77
*LAB*LABa*	26.48	28.63	−21.79
*LAB*TCHa*	25.01	35.99	322.71

relative* CIELAB *lab*

*lab*lab*	0.109	0.398	−0.302
*lab*tch*	0.25	0.5	0.896
*lab*nch*	0.5	0.5	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.109	0.324	−0.38
*lab*tce*	0.25	0.5	0.862
*lab*ncE*	0.5	0.5	b44r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	34.95	57.34	−43.57
*LAB*LABa*	34.95	57.26	−43.59
*LAB*TCHa*	50.0	71.98	322.71

relative* CIELAB *lab*

*lab*lab*	0.219	0.795	−0.605
*lab*tch*	0.5	1.0	0.896
*lab*nch*	0.0	1.0	0.896

***relative* Natural Colour (NC)**

*lab*lrj*	0.219	0.648	−0.761
*lab*tce*	0.5	1.0	0.862
*lab*ncE*	0.0	1.0	b44r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

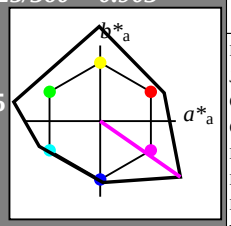
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

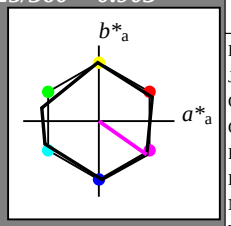
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 57 77 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	31.7	−22.18
*LAB*LABa*	76.05	31.67	−22.19
*LAB*TCHa*	75.0	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	31.74	−22.17
*LAB*LABa*	37.36	31.67	−22.19
*LAB*TCHa*	25.01	38.67	324.97

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	63.39	−44.38
*LAB*LABa*	56.7	63.34	−44.39
*LAB*TCHa*	50.0	77.35	324.97

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

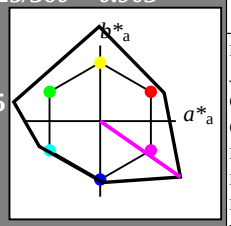
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

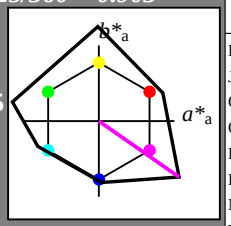
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.96
*LAB*TCHa*	75.0	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.668	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.668	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	31.04	53.11	−36.93
*LAB*LABa*	31.04	53.03	−36.96
*LAB*TCHa*	25.01	64.64	325.12

relative* CIELAB *lab*

*lab*lab*	0.168	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.168	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.05	−73.93
*LAB*TCHa*	50.0	129.28	325.12

relative* CIELAB *lab*

*lab*lab*	0.337	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.337	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

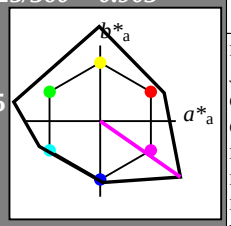
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

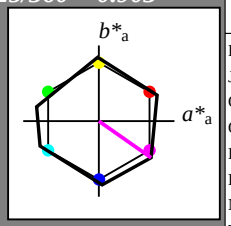
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 53 84 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	34.57	−24.19
*LAB*LABa*	74.3	34.54	−24.2
*LAB*TCHa*	75.0	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.75	0.409	−0.286
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.336	−0.37
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	34.6	−24.18
*LAB*LABa*	32.1	34.54	−24.2
*LAB*TCHa*	25.01	42.18	324.98

relative* CIELAB *lab*

*lab*lab*	0.25	0.409	−0.286
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.336	−0.37
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	69.12	−48.39
*LAB*LABa*	53.2	69.08	−48.4
*LAB*TCHa*	50.0	84.35	324.98

relative* CIELAB *lab*

*lab*lab*	0.5	0.819	−0.573
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.671	−0.74
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

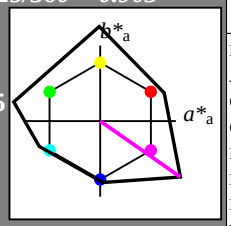
TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

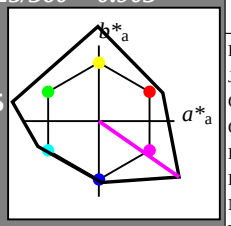
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 325/360 = 0.903**
lab*tch* and *lab*nch

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	1.0	(1.0)
*cmyn3**	0.0	0.5	0.0	(0.0)
*olvi4**	1.0	0.5	1.0	1.0
*cmyn4**	0.0	0.5	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	69.73	53.06	−36.95
*LAB*LABa*	69.73	53.03	−36.95
*LAB*TCHa*	75.0	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.696	0.41	−0.285
*lab*tch*	0.75	0.5	0.903
*lab*nch*	0.0	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.696	0.336	−0.369
*lab*tce*	0.75	0.5	0.867
*lab*ncE*	0.0	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.5	(1.0)
*cmyn3**	0.5	1.0	0.5	(0.0)
*olvi4**	1.0	0.5	1.0	0.5
*cmyn4**	0.0	0.5	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	27.53	53.1	−36.94
*LAB*LABa*	27.53	53.03	−36.95
*LAB*TCHa*	25.01	64.65	325.12

relative* CIELAB *lab*

*lab*lab*	0.196	0.41	−0.285
*lab*tch*	0.25	0.5	0.903
*lab*nch*	0.5	0.5	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.196	0.336	−0.369
*lab*tce*	0.25	0.5	0.867
*lab*ncE*	0.5	0.5	b46r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	1.0	(1.0)
*cmyn3**	0.0	1.0	0.0	(0.0)
*olvi4**	1.0	0.0	1.0	1.0
*cmyn4**	0.0	1.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	44.06	106.12	−73.91
*LAB*LABa*	44.06	106.07	−73.92
*LAB*TCHa*	50.0	129.29	325.12

relative* CIELAB *lab*

*lab*lab*	0.392	0.82	−0.571
*lab*tch*	0.5	1.0	0.903
*lab*nch*	0.0	1.0	0.903

***relative* Natural Colour (NC)**

*lab*lrj*	0.392	0.673	−0.739
*lab*tce*	0.5	1.0	0.867
*lab*ncE*	0.0	1.0	b46r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

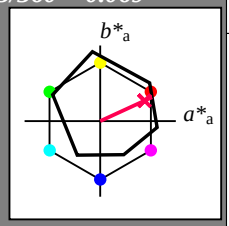
*n** = 1,0

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

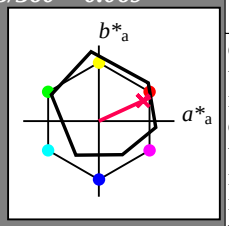
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
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*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
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*lab*lab*	0.194	0.454	0.209
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*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
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*lab*lab*	0.388	0.908	0.418
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*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

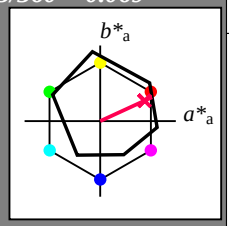
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

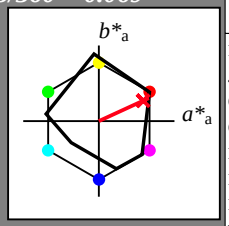
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

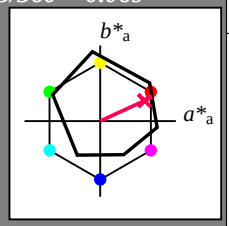
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661 (1.0)
*cmyn3**	0.0	0.5	0.339 (0.0)
*olvi4**	1.0	0.5	0.661 1.0
*cmyn4**	0.0	0.5	0.339 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161 (1.0)
*cmyn3**	0.5	1.0	0.839 (0.0)
*olvi4**	1.0	0.5	0.661 0.5
*cmyn4**	0.0	0.5	0.339 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322 (1.0)
*cmyn3**	0.0	1.0	0.678 (0.0)
*olvi4**	1.0	0.0	0.323 1.0
*cmyn4**	0.0	1.0	0.677 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

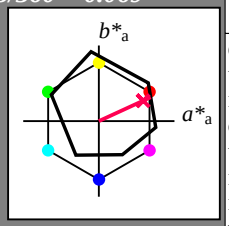
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661 (1.0)
*cmyn3**	0.0	0.5	0.339 (0.0)
*olvi4**	1.0	0.5	0.661 1.0
*cmyn4**	0.0	0.5	0.339 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161 (1.0)
*cmyn3**	0.5	1.0	0.839 (0.0)
*olvi4**	1.0	0.5	0.661 0.5
*cmyn4**	0.0	0.5	0.339 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322 (1.0)
*cmyn3**	0.0	1.0	0.678 (0.0)
*olvi4**	1.0	0.0	0.323 1.0
*cmyn4**	0.0	1.0	0.677 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

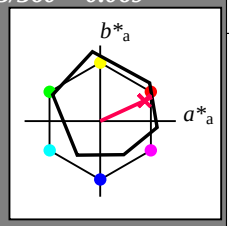
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

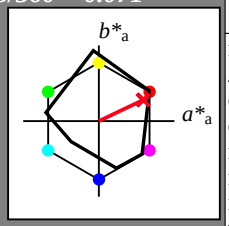
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

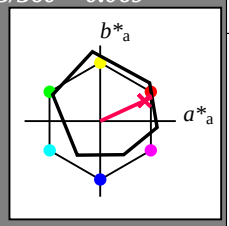
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

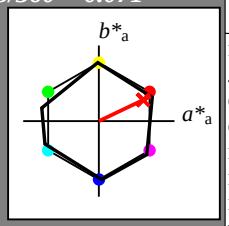
chromaticness c^*

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

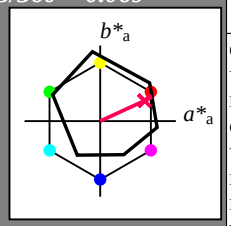
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

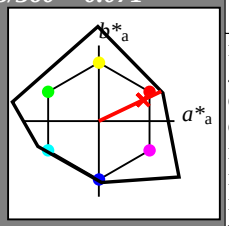
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

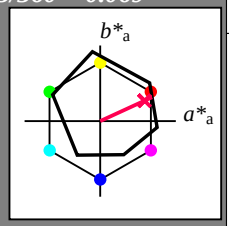
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

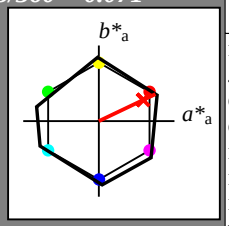
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

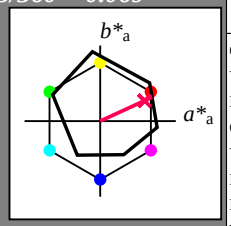
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

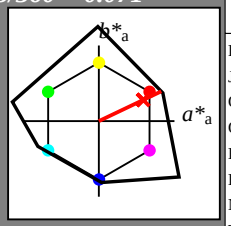
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

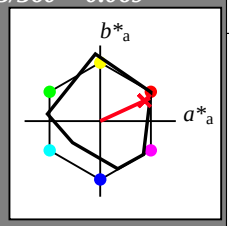
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

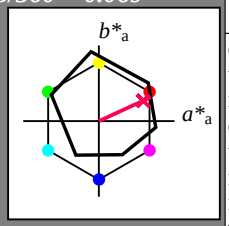
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

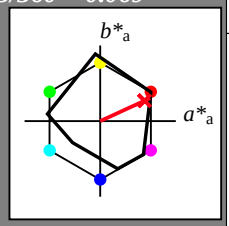
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548 (1.0)
*cmyn3**	0.0	0.5	0.452 (0.0)
*olvi4**	1.0	0.5	0.549 1.0
*cmyn4**	0.0	0.5	0.451 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048 (1.0)
*cmyn3**	0.5	1.0	0.952 (0.0)
*olvi4**	1.0	0.5	0.548 0.5
*cmyn4**	0.0	0.5	0.452 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097 (1.0)
*cmyn3**	0.0	1.0	0.903 (0.0)
*olvi4**	1.0	0.0	0.097 1.0
*cmyn4**	0.0	1.0	0.903 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

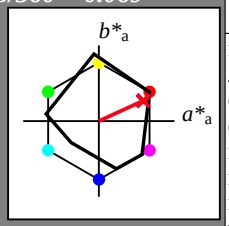
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

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*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548 (1.0)
*cmyn3**	0.0	0.5	0.452 (0.0)
*olvi4**	1.0	0.5	0.549 1.0
*cmyn4**	0.0	0.5	0.451 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048 (1.0)
*cmyn3**	0.5	1.0	0.952 (0.0)
*olvi4**	1.0	0.5	0.548 0.5
*cmyn4**	0.0	0.5	0.452 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

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*lab*lrj*	0.195	0.5	0.0
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*olvi3**	1.0	0.0	0.097 (1.0)
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***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

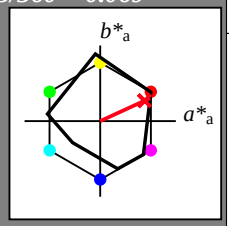
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
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%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

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*lab*nch*	0.5	0.0	–

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*lab*lrj*	0.5	0.0	0.0
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*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

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*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
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*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

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*olvi3**	1.0	0.0	0.097	(1.0)
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*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

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***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

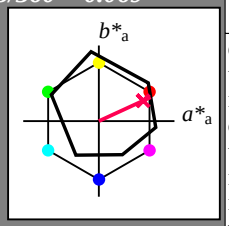
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

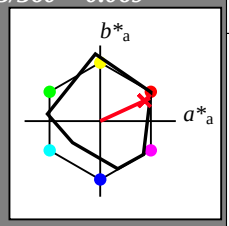
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u*$_{rel}$ = 91
%Regularity
g*$_{H,rel}$ = 41
g*$_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548 (1.0)
*cmyn3**	0.0	0.5	0.452 (0.0)
*olvi4**	1.0	0.5	0.549 1.0
*cmyn4**	0.0	0.5	0.451 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048 (1.0)
*cmyn3**	0.5	1.0	0.952 (0.0)
*olvi4**	1.0	0.5	0.548 0.5
*cmyn4**	0.0	0.5	0.452 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097 (1.0)
*cmyn3**	0.0	1.0	0.903 (0.0)
*olvi4**	1.0	0.0	0.097 1.0
*cmyn4**	0.0	1.0	0.903 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

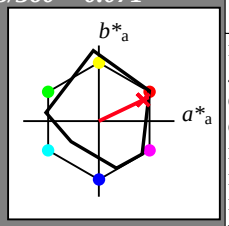
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u*$_{rel}$ = 92
%Regularity
g*$_{H,rel}$ = 42
g*$_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552 (1.0)
*cmyn3**	0.0	0.5	0.448 (0.0)
*olvi4**	1.0	0.5	0.552 1.0
*cmyn4**	0.0	0.5	0.448 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052 (1.0)
*cmyn3**	0.5	1.0	0.948 (0.0)
*olvi4**	1.0	0.5	0.552 0.5
*cmyn4**	0.0	0.5	0.448 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103 (1.0)
*cmyn3**	0.0	1.0	0.897 (0.0)
*olvi4**	1.0	0.0	0.104 1.0
*cmyn4**	0.0	1.0	0.896 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

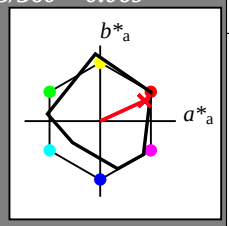
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548 (1.0)
*cmyn3**	0.0	0.5	0.452 (0.0)
*olvi4**	1.0	0.5	0.549 1.0
*cmyn4**	0.0	0.5	0.451 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048 (1.0)
*cmyn3**	0.5	1.0	0.952 (0.0)
*olvi4**	1.0	0.5	0.548 0.5
*cmyn4**	0.0	0.5	0.452 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097 (1.0)
*cmyn3**	0.0	1.0	0.903 (0.0)
*olvi4**	1.0	0.0	0.097 1.0
*cmyn4**	0.0	1.0	0.903 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

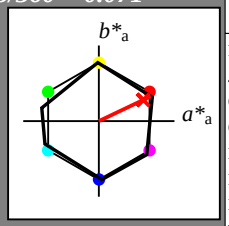
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5 (1.0)
*cmyn3**	0.0	0.486	0.5 (0.0)
*olvi4**	1.0	0.514	0.5 1.0
*cmyn4**	0.0	0.486	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0 (1.0)
*cmyn3**	0.5	0.986	1.0 (0.0)
*olvi4**	1.0	0.514	0.5 0.5
*cmyn4**	0.0	0.486	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0 (1.0)
*cmyn3**	0.0	0.972	1.0 (0.0)
*olvi4**	1.0	0.028	0.0 1.0
*cmyn4**	0.0	0.972	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

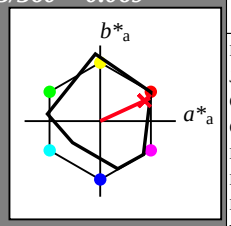
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

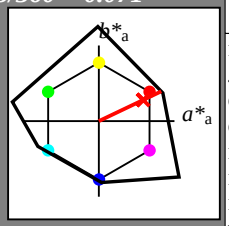
*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

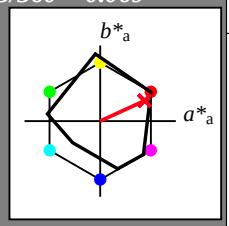
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

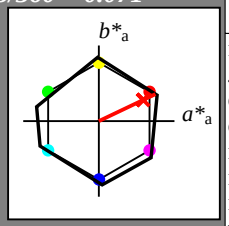
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

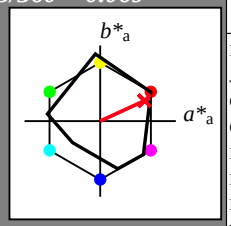
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

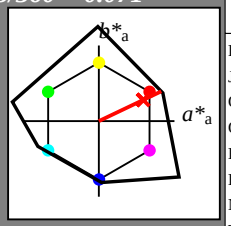
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

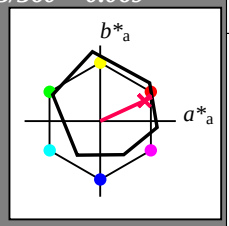
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

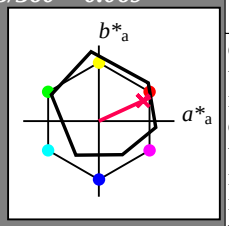
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

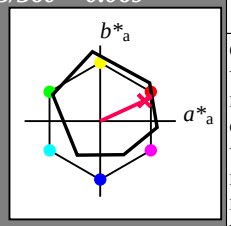
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

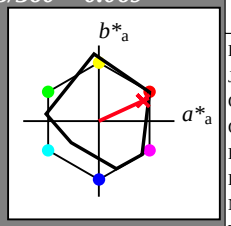
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

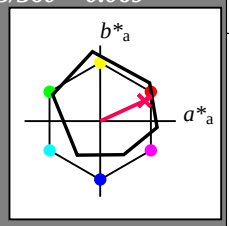
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

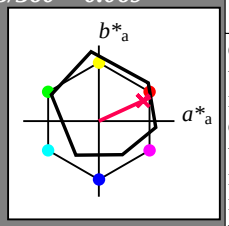
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

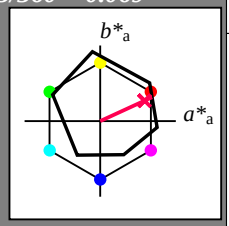
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661 (1.0)
*cmyn3**	0.0	0.5	0.339 (0.0)
*olvi4**	1.0	0.5	0.661 1.0
*cmyn4**	0.0	0.5	0.339 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161 (1.0)
*cmyn3**	0.5	1.0	0.839 (0.0)
*olvi4**	1.0	0.5	0.661 0.5
*cmyn4**	0.0	0.5	0.339 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322 (1.0)
*cmyn3**	0.0	1.0	0.678 (0.0)
*olvi4**	1.0	0.0	0.323 1.0
*cmyn4**	0.0	1.0	0.677 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

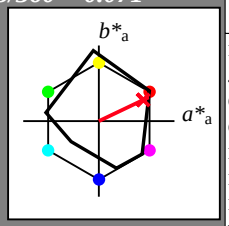
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552 (1.0)
*cmyn3**	0.0	0.5	0.448 (0.0)
*olvi4**	1.0	0.5	0.552 1.0
*cmyn4**	0.0	0.5	0.448 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052 (1.0)
*cmyn3**	0.5	1.0	0.948 (0.0)
*olvi4**	1.0	0.5	0.552 0.5
*cmyn4**	0.0	0.5	0.448 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103 (1.0)
*cmyn3**	0.0	1.0	0.897 (0.0)
*olvi4**	1.0	0.0	0.104 1.0
*cmyn4**	0.0	1.0	0.896 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

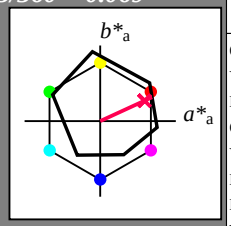
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

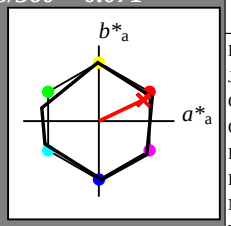
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

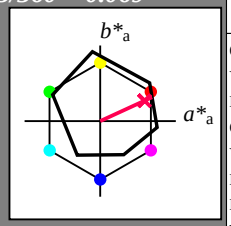
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

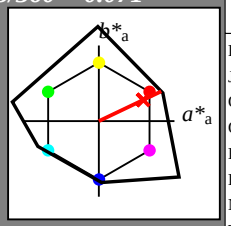
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

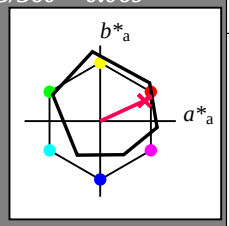
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

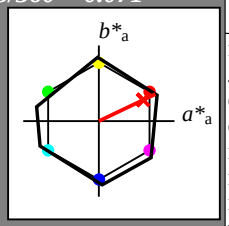
*n** = 1,0

Output: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u*$_{rel}$ = 119
%Regularity
g*$_{H,rel}$ = 47
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

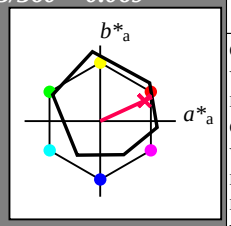
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

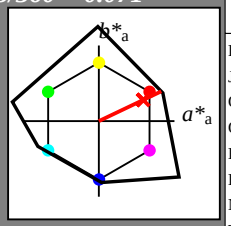
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

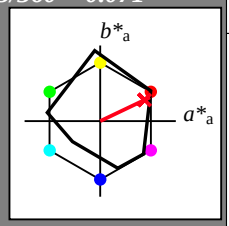
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552 (1.0)
*cmyn3**	0.0	0.5	0.448 (0.0)
*olvi4**	1.0	0.5	0.552 1.0
*cmyn4**	0.0	0.5	0.448 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052 (1.0)
*cmyn3**	0.5	1.0	0.948 (0.0)
*olvi4**	1.0	0.5	0.552 0.5
*cmyn4**	0.0	0.5	0.448 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103 (1.0)
*cmyn3**	0.0	1.0	0.897 (0.0)
*olvi4**	1.0	0.0	0.104 1.0
*cmyn4**	0.0	1.0	0.896 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

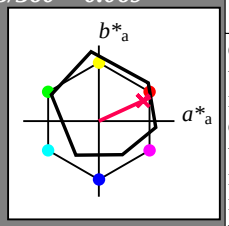
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661 (1.0)
*cmyn3**	0.0	0.5	0.339 (0.0)
*olvi4**	1.0	0.5	0.661 1.0
*cmyn4**	0.0	0.5	0.339 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161 (1.0)
*cmyn3**	0.5	1.0	0.839 (0.0)
*olvi4**	1.0	0.5	0.661 0.5
*cmyn4**	0.0	0.5	0.339 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322 (1.0)
*cmyn3**	0.0	1.0	0.678 (0.0)
*olvi4**	1.0	0.0	0.323 1.0
*cmyn4**	0.0	1.0	0.677 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

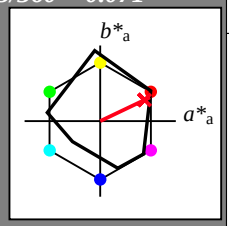
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

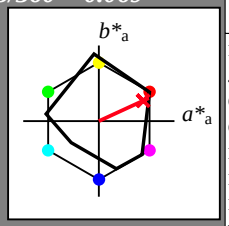
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

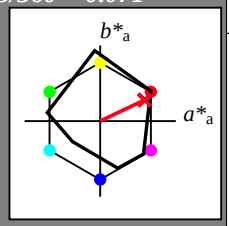
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

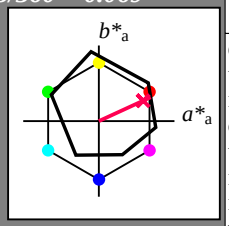
*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

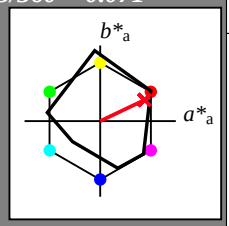
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

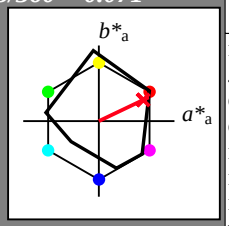
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

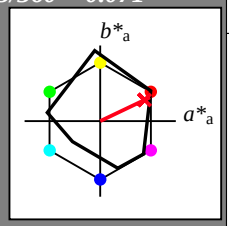
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

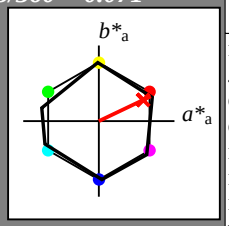
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

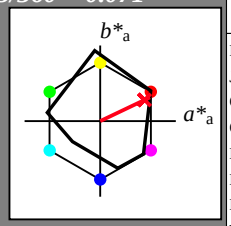
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

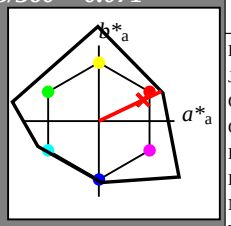
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

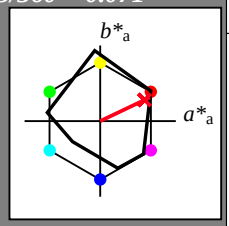
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

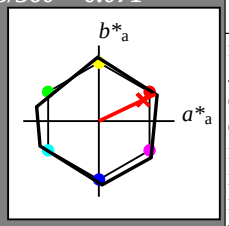
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

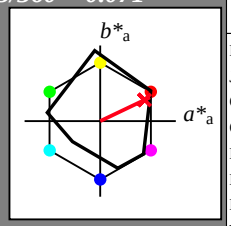
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

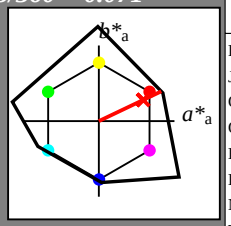
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

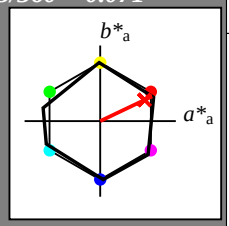
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

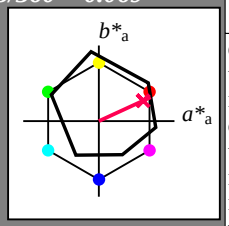
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

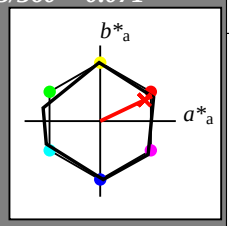
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 100
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

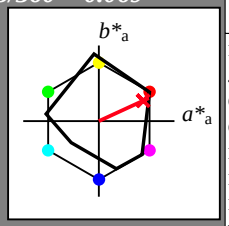
*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 91
%Regularity
g*H,rel = 41
g*C,rel = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
*n** = 0,50
0,25
0,50
0,75
1,00
chromaticness *c**
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

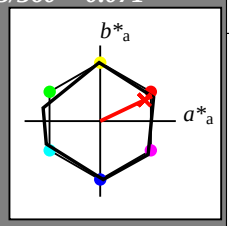
3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

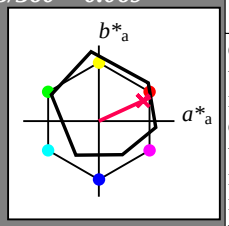
*n** = 1,0

Output: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 25/360 = 0.069
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0
*cmyn3**	0.0	0.0	0.0
*olvi4**	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

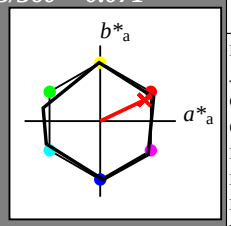
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 100
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

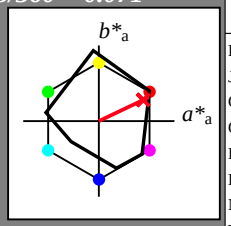
*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

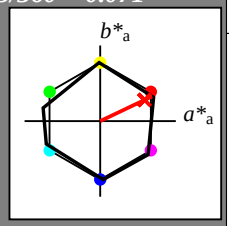
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

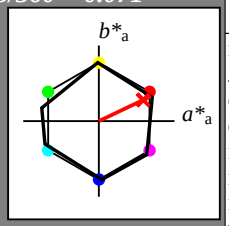
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

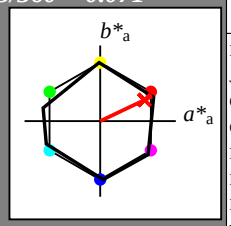
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

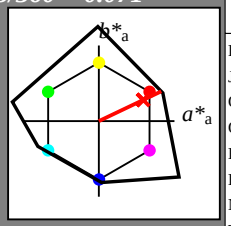
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

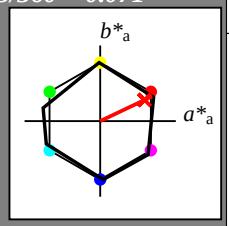
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

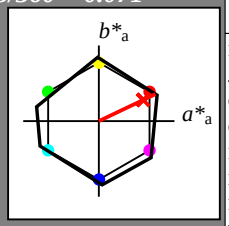
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

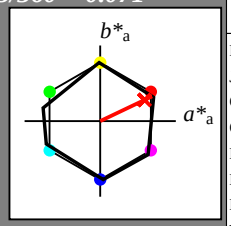
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

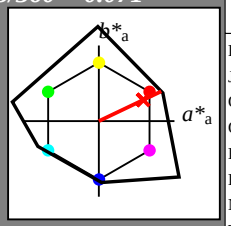
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

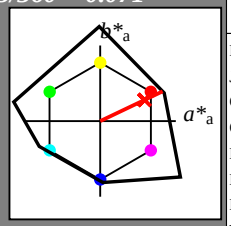
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

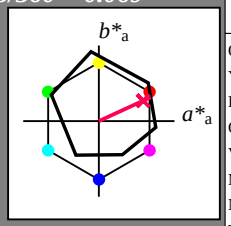
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

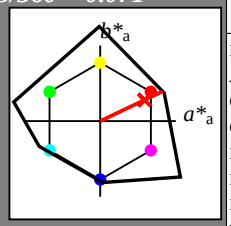
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

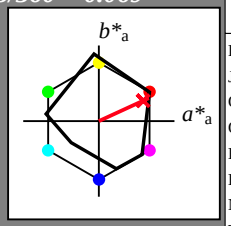
*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

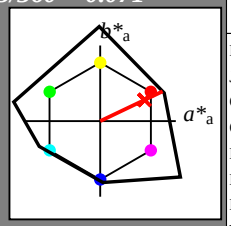
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

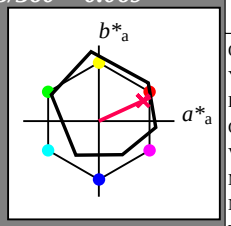
*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	1.0	1.0	(0.0)
*olvi4**	1.0	0.0	0.0	0.0
*cmyn4**	0.0	1.0	1.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.0	0.0
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

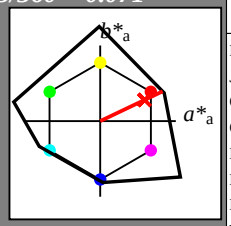
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

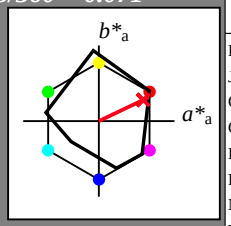
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

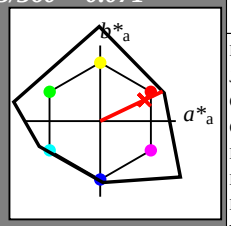
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

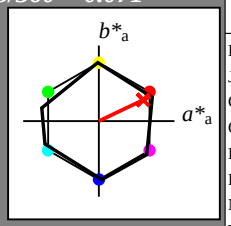
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

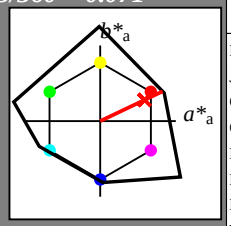
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

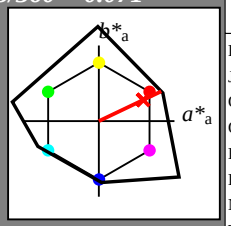
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

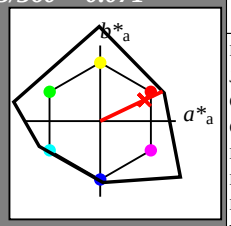
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

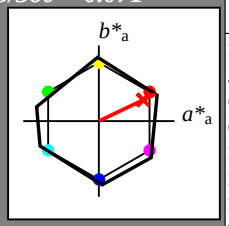
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

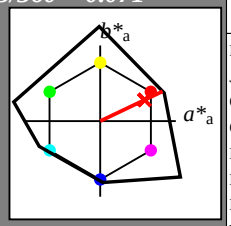
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

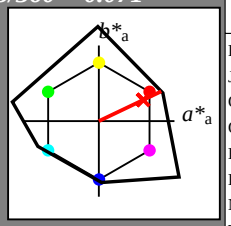
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

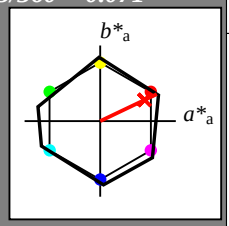
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5 (1.0)
*cmyn3**	0.0	0.486	0.5 (0.0)
*olvi4**	1.0	0.514	0.5 1.0
*cmyn4**	0.0	0.486	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0 (1.0)
*cmyn3**	0.5	0.986	1.0 (0.0)
*olvi4**	1.0	0.514	0.5 0.5
*cmyn4**	0.0	0.486	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0 (1.0)
*cmyn3**	0.0	0.972	1.0 (0.0)
*olvi4**	1.0	0.028	0.0 1.0
*cmyn4**	0.0	0.972	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

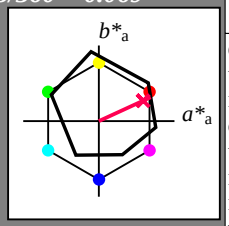
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661 (1.0)
*cmyn3**	0.0	0.5	0.339 (0.0)
*olvi4**	1.0	0.5	0.661 1.0
*cmyn4**	0.0	0.5	0.339 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161 (1.0)
*cmyn3**	0.5	1.0	0.839 (0.0)
*olvi4**	1.0	0.5	0.661 0.5
*cmyn4**	0.0	0.5	0.339 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322 (1.0)
*cmyn3**	0.0	1.0	0.678 (0.0)
*olvi4**	1.0	0.0	0.323 1.0
*cmyn4**	0.0	1.0	0.677 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

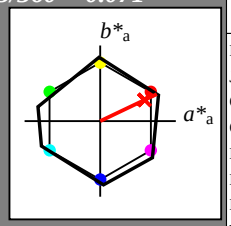
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

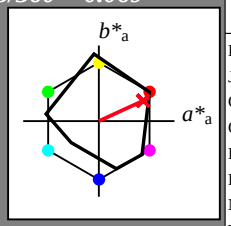
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

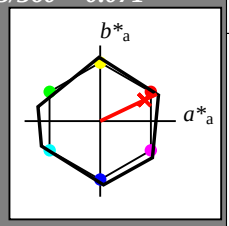
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5 (1.0)
*cmyn3**	0.0	0.486	0.5 (0.0)
*olvi4**	1.0	0.514	0.5 1.0
*cmyn4**	0.0	0.486	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0 (1.0)
*cmyn3**	0.5	0.986	1.0 (0.0)
*olvi4**	1.0	0.514	0.5 0.5
*cmyn4**	0.0	0.486	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0 (1.0)
*cmyn3**	0.0	0.972	1.0 (0.0)
*olvi4**	1.0	0.028	0.0 1.0
*cmyn4**	0.0	0.972	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

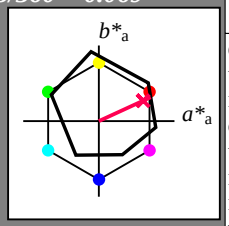
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661 (1.0)
*cmyn3**	0.0	0.5	0.339 (0.0)
*olvi4**	1.0	0.5	0.661 1.0
*cmyn4**	0.0	0.5	0.339 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161 (1.0)
*cmyn3**	0.5	1.0	0.839 (0.0)
*olvi4**	1.0	0.5	0.661 0.5
*cmyn4**	0.0	0.5	0.339 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322 (1.0)
*cmyn3**	0.0	1.0	0.678 (0.0)
*olvi4**	1.0	0.0	0.323 1.0
*cmyn4**	0.0	1.0	0.677 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

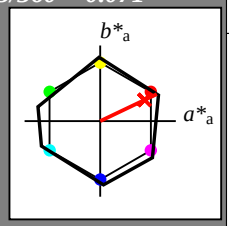
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 119
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

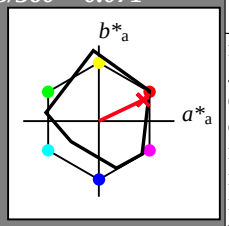
*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

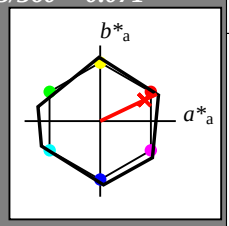
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

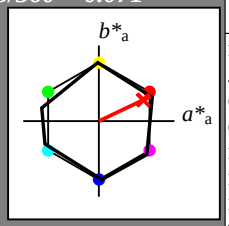
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

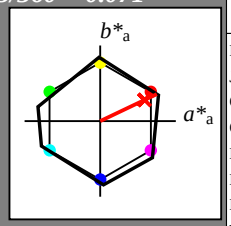
3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 119
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

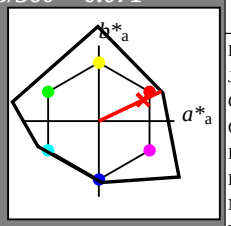
*n** = 1,0

Output: Colorimetric Reflective System NCS18

for hue *h** = *lab*h* = 25/360 = 0.071
*lab*tch* and *lab*nch*

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.29	25.34	117.07	167
G50BMa	59.47	−80.61	−33.45	87.29	203
BMa	49.01	3.63	−81.2	81.29	273
B50RMa	44.06	106.07	−73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 136
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

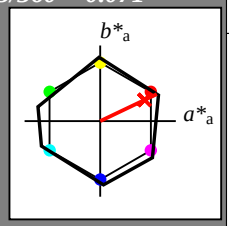
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

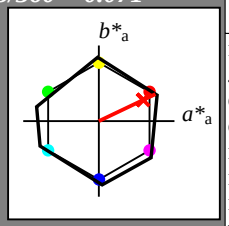
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

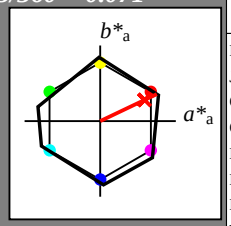
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

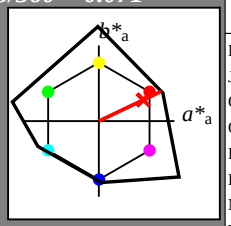
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

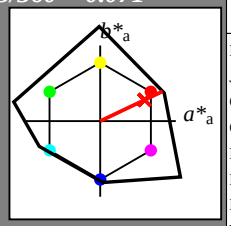
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

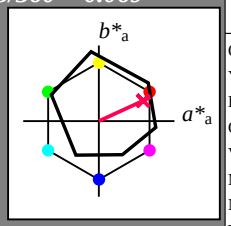
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

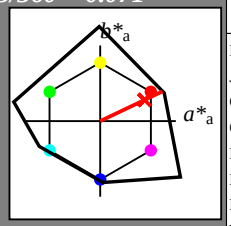
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

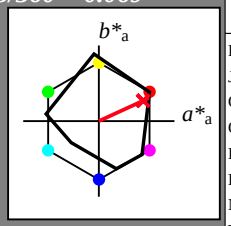
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.548	(1.0)
*cmyn3**	0.0	0.5	0.452	(0.0)
*olvi4**	1.0	0.5	0.549	1.0
*cmyn4**	0.0	0.5	0.451	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.8	32.47	18.34
*LAB*LABa*	71.8	33.0	15.17
*LAB*TCHa*	75.0	36.32	24.7

relative* CIELAB *lab*

*lab*lab*	0.695	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.048	(1.0)
*cmyn3**	0.5	1.0	0.952	(0.0)
*olvi4**	1.0	0.5	0.548	0.5
*cmyn4**	0.0	0.5	0.452	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	33.21	15.74
*LAB*LABa*	33.11	33.0	15.18
*LAB*TCHa*	25.01	36.33	24.71

relative* CIELAB *lab*

*lab*lab*	0.195	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.097	(1.0)
*cmyn3**	0.0	1.0	0.903	(0.0)
*olvi4**	1.0	0.0	0.097	1.0
*cmyn4**	0.0	1.0	0.903	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	65.92	31.93
*LAB*LABa*	48.21	66.0	30.36
*LAB*TCHa*	50.0	72.65	24.7

relative* CIELAB *lab*

*lab*lab*	0.39	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

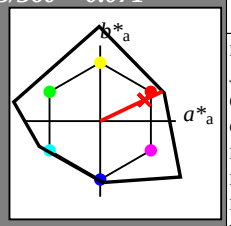
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

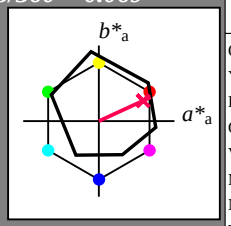
*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 25/360 = 0.069**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 75 25
olv*Ma: 1.0 0.0 0.32

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.661	(1.0)
*cmyn3**	0.0	0.5	0.339	(0.0)
*olvi4**	1.0	0.5	0.661	1.0
*cmyn4**	0.0	0.5	0.339	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.7	33.75	18.92
*LAB*LABa*	71.7	34.27	15.76
*LAB*TCHa*	75.0	37.72	24.69

relative* CIELAB *lab*

*lab*lab*	0.694	0.454	0.209
*lab*tch*	0.75	0.5	0.069
*lab*nch*	0.0	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.161	(1.0)
*cmyn3**	0.5	1.0	0.839	(0.0)
*olvi4**	1.0	0.5	0.661	0.5
*cmyn4**	0.0	0.5	0.339	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.01	34.49	16.31
*LAB*LABa*	33.01	34.27	15.77
*LAB*TCHa*	25.01	37.73	24.7

relative* CIELAB *lab*

*lab*lab*	0.194	0.454	0.209
*lab*tch*	0.25	0.5	0.069
*lab*nch*	0.5	0.5	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.194	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.322	(1.0)
*cmyn3**	0.0	1.0	0.678	(0.0)
*olvi4**	1.0	0.0	0.323	1.0
*cmyn4**	0.0	1.0	0.677	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.01	68.48	33.09
*LAB*LABa*	48.01	68.55	31.53
*LAB*TCHa*	50.0	75.45	24.7

relative* CIELAB *lab*

*lab*lab*	0.388	0.908	0.418
*lab*tch*	0.5	1.0	0.069
*lab*nch*	0.0	1.0	0.069

***relative* Natural Colour (NC)**

*lab*lrj*	0.388	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

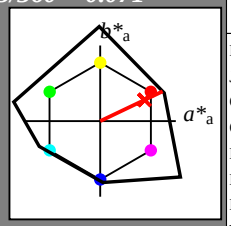
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

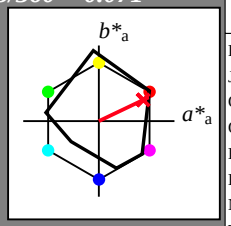
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 73 25
olv*Ma: 1.0 0.0 0.1

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.5	0.552	(1.0)
*cmyn3**	0.0	0.5	0.448	(0.0)
*olvi4**	1.0	0.5	0.552	1.0
*cmyn4**	0.0	0.5	0.448	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.76	32.94	15.69
*LAB*LABa*	71.76	32.9	15.68
*LAB*TCHa*	75.0	36.45	25.49

relative* CIELAB *lab*

*lab*lab*	0.694	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.694	0.5	0.0
*lab*tce*	0.75	0.5	1.0
*lab*ncE*	0.0	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.0	0.052	(1.0)
*cmyn3**	0.5	1.0	0.948	(0.0)
*olvi4**	1.0	0.5	0.552	0.5
*cmyn4**	0.0	0.5	0.448	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.07	32.98	15.72
*LAB*LABa*	33.07	32.9	15.69
*LAB*TCHa*	25.01	36.45	25.5

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	0.0
*lab*ncE*	0.5	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.0	0.103	(1.0)
*cmyn3**	0.0	1.0	0.897	(0.0)
*olvi4**	1.0	0.0	0.104	1.0
*cmyn4**	0.0	1.0	0.896	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.11	65.86	31.39
*LAB*LABa*	48.11	65.8	31.37
*LAB*TCHa*	50.0	72.9	25.49

relative* CIELAB *lab*

*lab*lab*	0.389	0.902	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.389	1.0	0.0
*lab*tce*	0.5	1.0	0.0
*lab*ncE*	0.0	1.0	r00j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

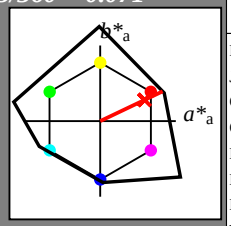
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

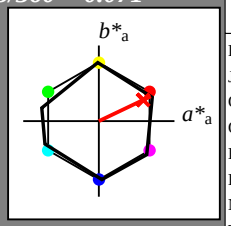
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 57 76 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	34.36	16.37
*LAB*LABa*	76.05	34.33	16.36
*LAB*TCHa*	75.0	38.03	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	34.41	16.38
*LAB*LABa*	37.36	34.33	16.36
*LAB*TCHa*	25.01	38.03	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	68.71	32.74
*LAB*LABa*	56.7	68.66	32.72
*LAB*TCHa*	50.0	76.06	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

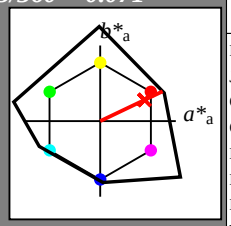
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

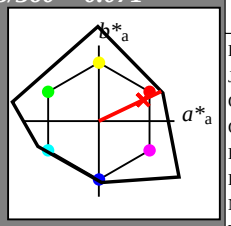
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.27	19.68
*LAB*TCHa*	75.0	45.72	25.49

relative* CIELAB *lab*

*lab*lab*	0.695	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.695	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.11	41.36	19.69
*LAB*LABa*	33.11	41.28	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.195	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.195	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.55	39.34
*LAB*TCHa*	50.0	91.45	25.48

relative* CIELAB *lab*

*lab*lab*	0.39	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.39	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

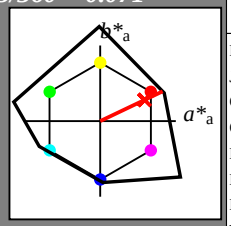
*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

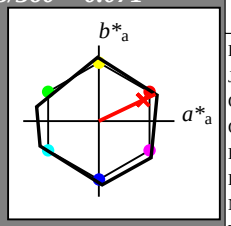
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 53 83 25
olv*Ma: 1.0 0.03 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.514	0.5	(1.0)
*cmyn3**	0.0	0.486	0.5	(0.0)
*olvi4**	1.0	0.514	0.5	1.0
*cmyn4**	0.0	0.486	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	37.46	17.85
*LAB*LABa*	74.3	37.44	17.85
*LAB*TCHa*	75.0	41.47	25.49

relative* CIELAB *lab*

*lab*lab*	0.75	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.014	0.0	(1.0)
*cmyn3**	0.5	0.986	1.0	(0.0)
*olvi4**	1.0	0.514	0.5	0.5
*cmyn4**	0.0	0.486	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	37.51	17.86
*LAB*LABa*	32.1	37.45	17.84
*LAB*TCHa*	25.01	41.48	25.48

relative* CIELAB *lab*

*lab*lab*	0.25	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.028	0.0	(1.0)
*cmyn3**	0.0	0.972	1.0	(0.0)
*olvi4**	1.0	0.028	0.0	1.0
*cmyn4**	0.0	0.972	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	74.93	35.7
*LAB*LABa*	53.2	74.88	35.69
*LAB*TCHa*	50.0	82.95	25.48

relative* CIELAB *lab*

*lab*lab*	0.5	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

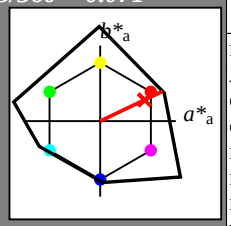
TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

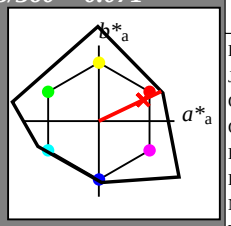
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 25/360 = 0.071**
lab*tch* and *lab*nch

D65: hue R
LCH*Ma: 48 91 25
olv*Ma: 1.0 0.02 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.512	0.5	(1.0)
*cmyn3**	0.0	0.488	0.5	(0.0)
*olvi4**	1.0	0.512	0.5	1.0
*cmyn4**	0.0	0.488	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	71.81	41.31	19.68
*LAB*LABa*	71.81	41.28	19.68
*LAB*TCHa*	75.0	45.73	25.49

relative* CIELAB *lab*

*lab*lab*	0.72	0.451	0.215
*lab*tch*	0.75	0.5	0.071
*lab*nch*	0.0	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.72	0.5	0.0
*lab*tce*	0.75	0.5	0.0
*lab*ncE*	0.0	0.5	r00j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.012	0.0	(1.0)
*cmyn3**	0.5	0.988	1.0	(0.0)
*olvi4**	1.0	0.512	0.5	0.5
*cmyn4**	0.0	0.488	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.6	41.35	19.69
*LAB*LABa*	29.6	41.29	19.67
*LAB*TCHa*	25.01	45.73	25.47

relative* CIELAB *lab*

*lab*lab*	0.22	0.451	0.215
*lab*tch*	0.25	0.5	0.071
*lab*nch*	0.5	0.5	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.22	0.5	0.0
*lab*tce*	0.25	0.5	1.0
*lab*ncE*	0.5	0.5	b99r

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.024	0.0	(1.0)
*cmyn3**	0.0	0.976	1.0	(0.0)
*olvi4**	1.0	0.024	0.0	1.0
*cmyn4**	0.0	0.976	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	48.21	82.61	39.36
*LAB*LABa*	48.21	82.57	39.35
*LAB*TCHa*	50.0	91.46	25.48

relative* CIELAB *lab*

*lab*lab*	0.441	0.903	0.43
*lab*tch*	0.5	1.0	0.071
*lab*nch*	0.0	1.0	0.071

***relative* Natural Colour (NC)**

*lab*lrj*	0.441	1.0	0.0
*lab*tce*	0.5	1.0	1.0
*lab*ncE*	0.0	1.0	b99r

*n** = 0,00

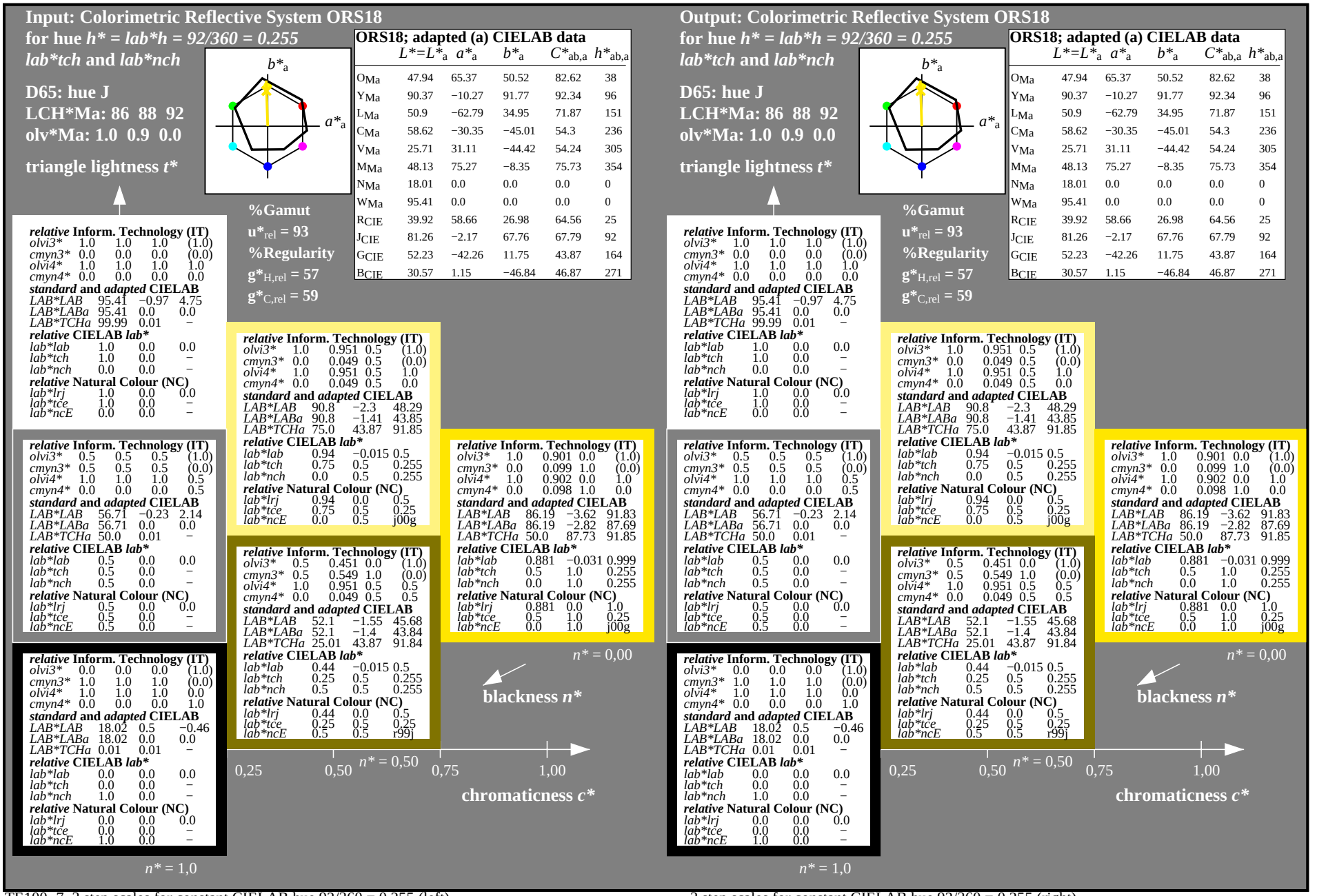
blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)



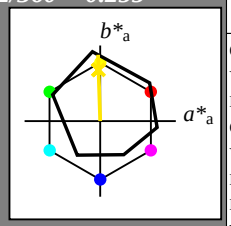
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

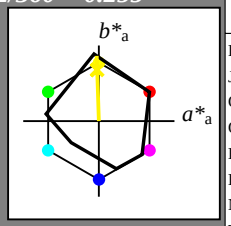
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

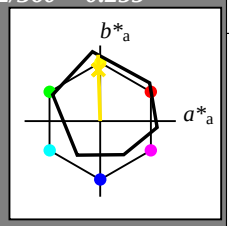
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

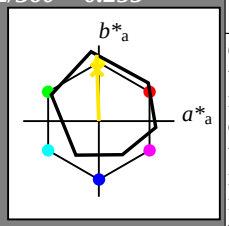
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

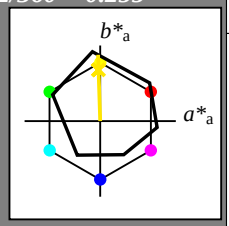
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

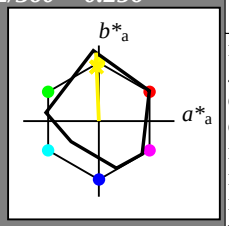
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

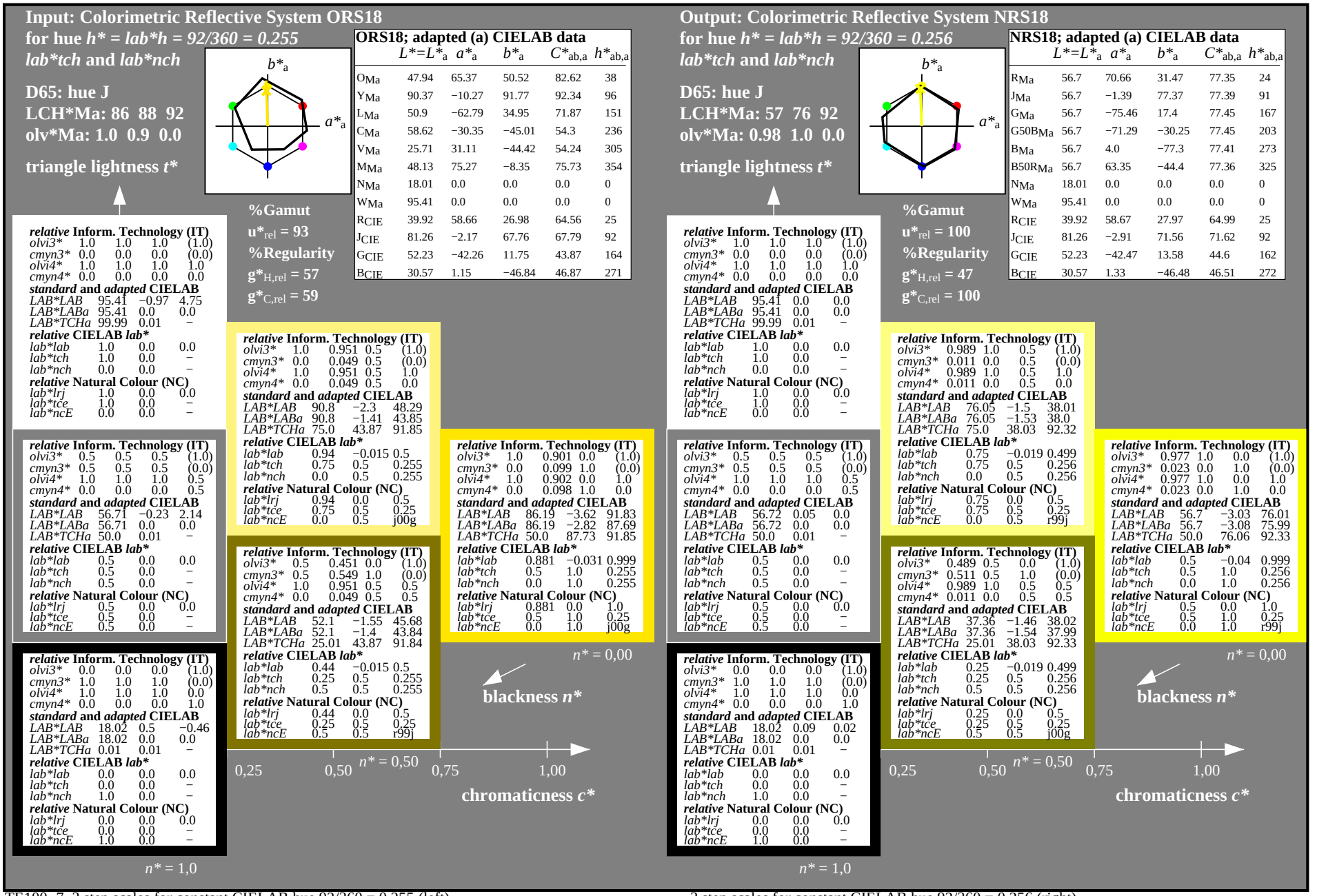
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



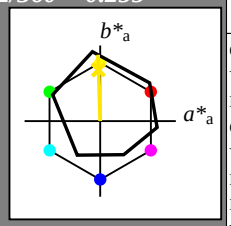
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

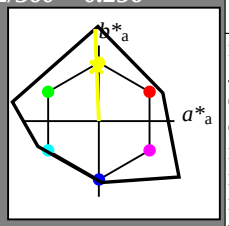
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

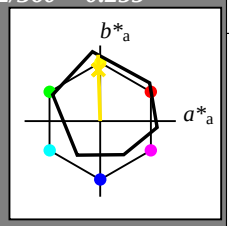
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

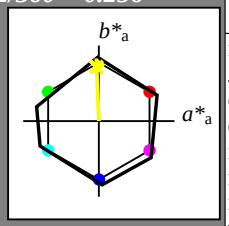
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

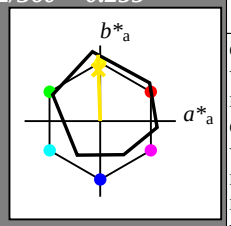
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

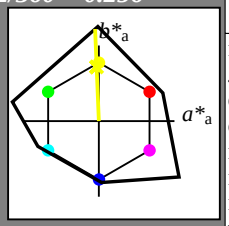
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

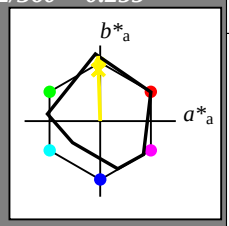
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

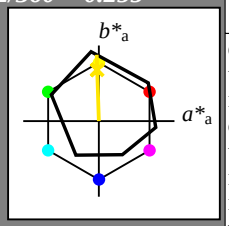
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

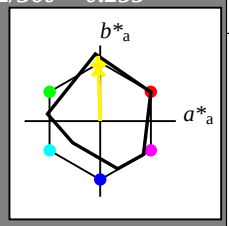
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

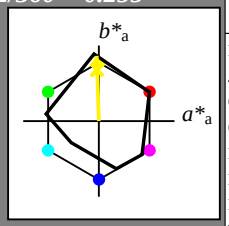
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

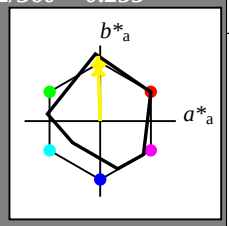
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System MRS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

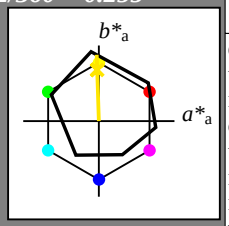
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

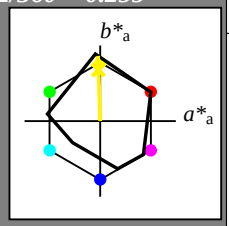
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

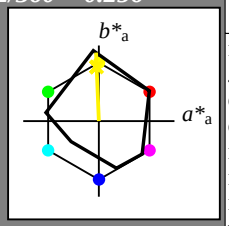
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

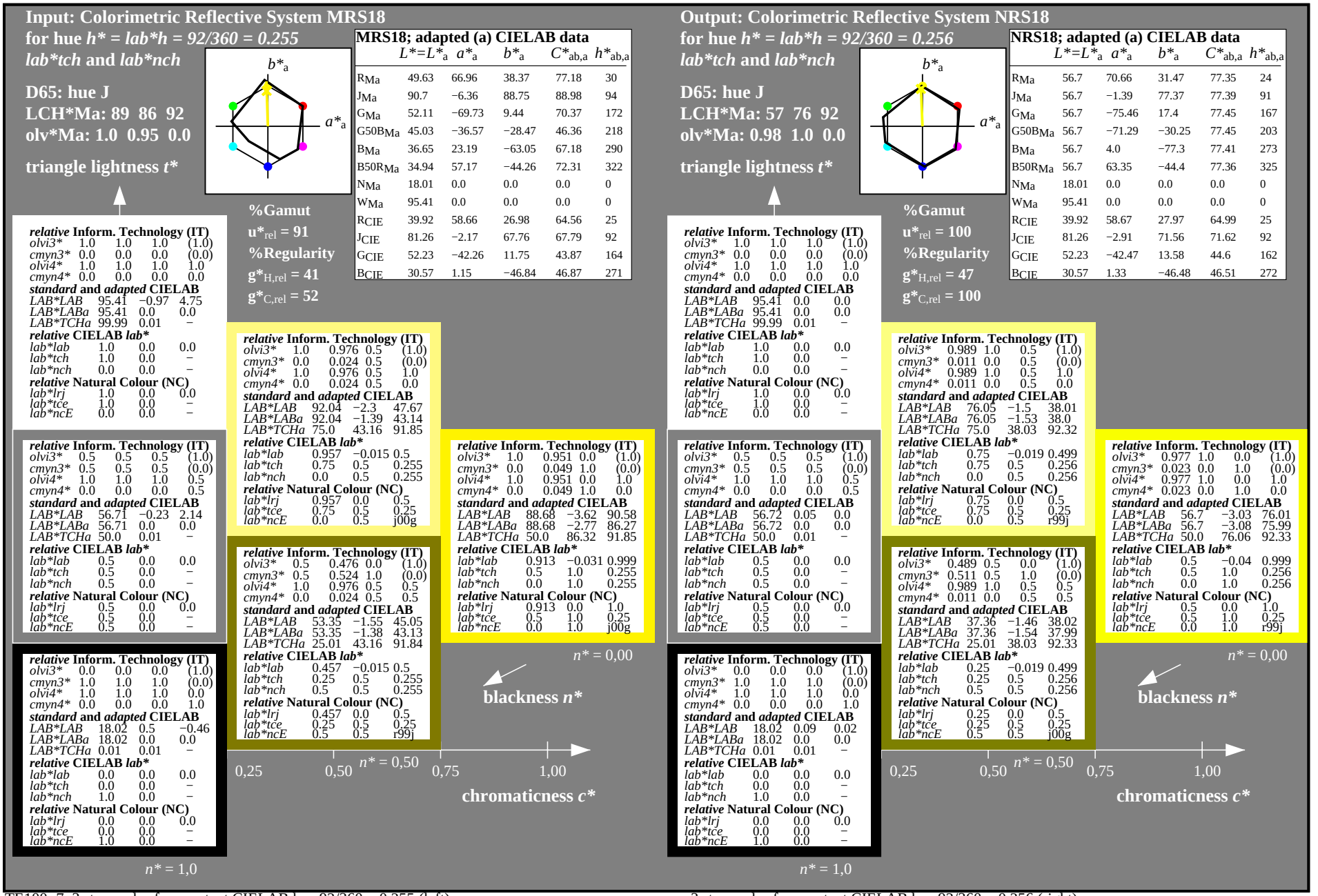
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



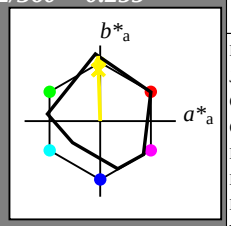
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

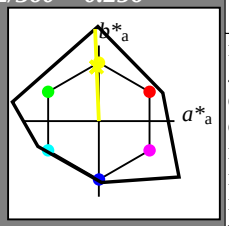
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

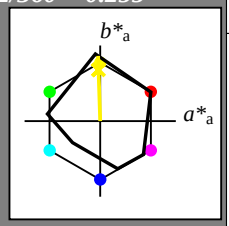
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

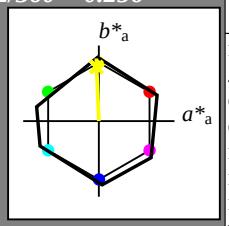
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

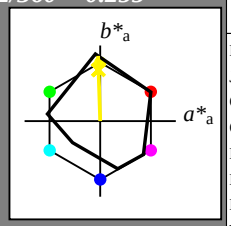
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

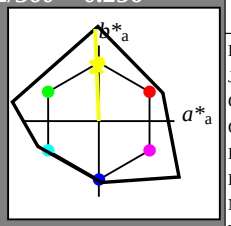
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

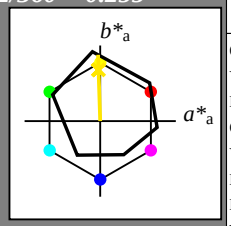
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

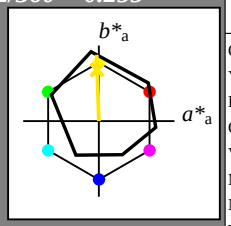
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

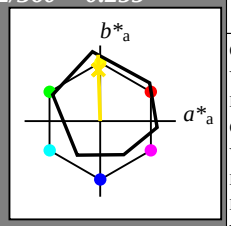
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

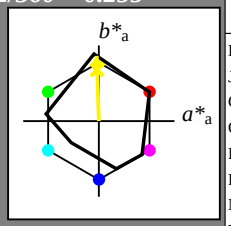
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

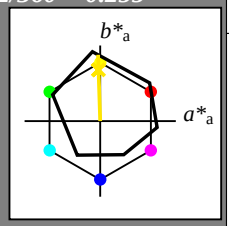
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

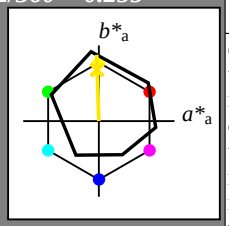
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
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*LAB*TCHa*	75.0	43.87	91.85

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*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

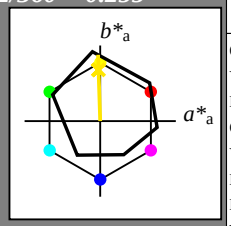
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

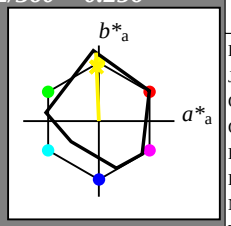
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

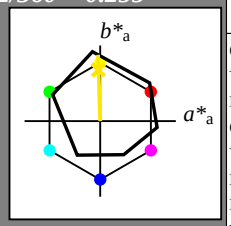
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

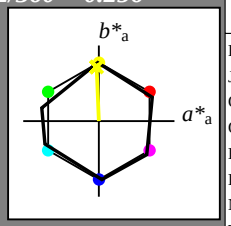
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

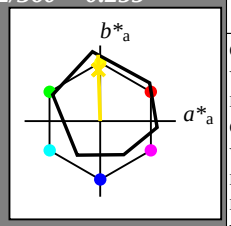
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

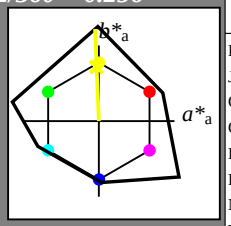
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

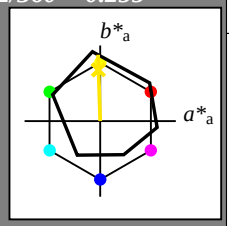
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

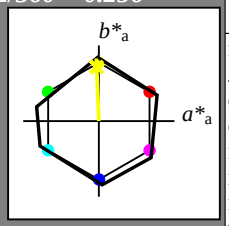
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

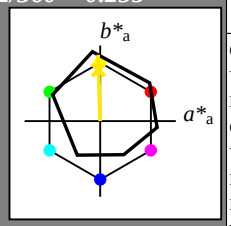
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 1,0

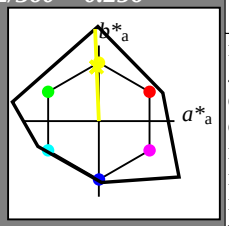
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u*rel = 149
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

*n** = 1,0

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

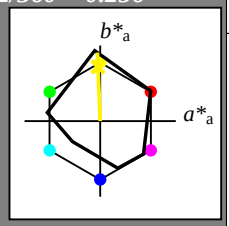
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

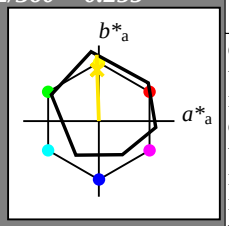
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue *h** = *lab*h* = 92/360 = 0.255
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

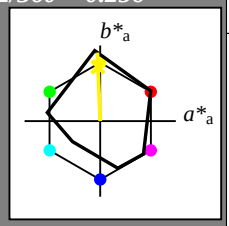
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

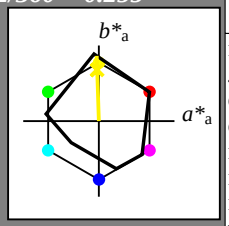
*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 92/360 = 0.255
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
*n** = 1,0
0,25
0,50
0,75
1,00
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

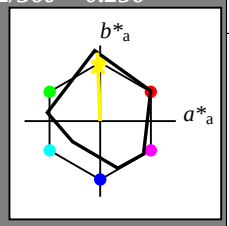
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

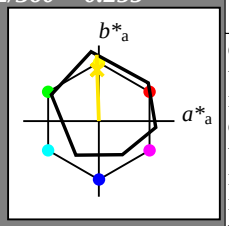
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System TRS18

for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

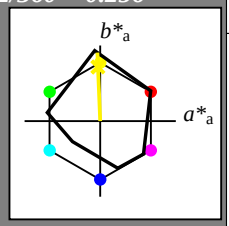
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

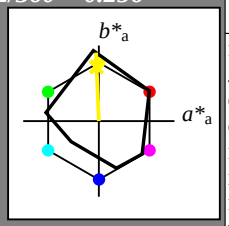
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

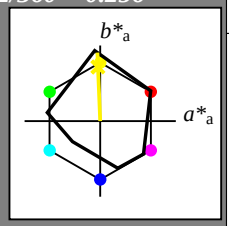
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

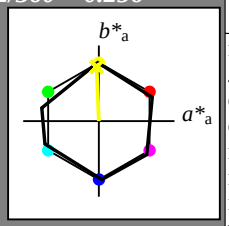
*n** = 1,0

Output: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

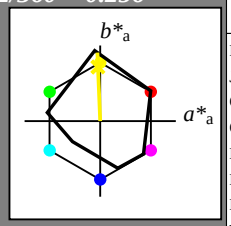
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

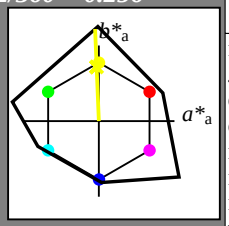
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

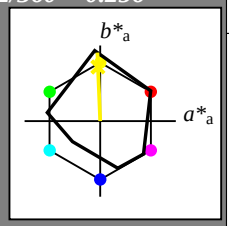
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

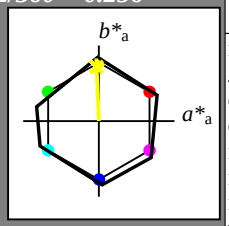
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

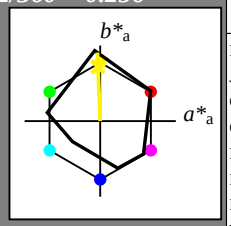
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

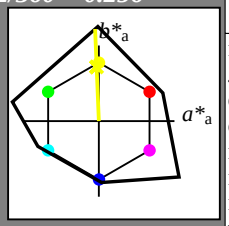
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

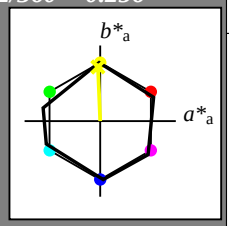
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

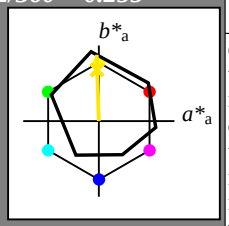
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

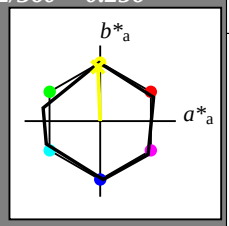
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

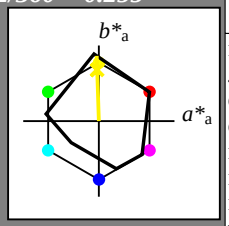
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

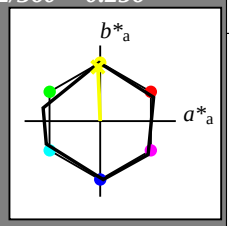
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

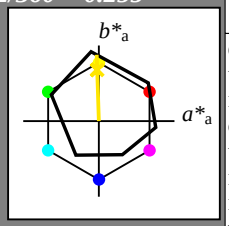
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

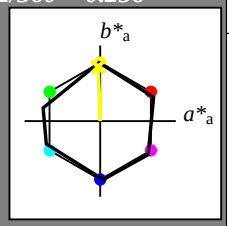
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 47
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

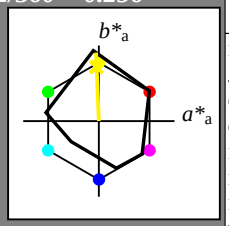
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u*$_{rel}$ = 92
%Regularity
g*$_{H,rel}$ = 42
g*$_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

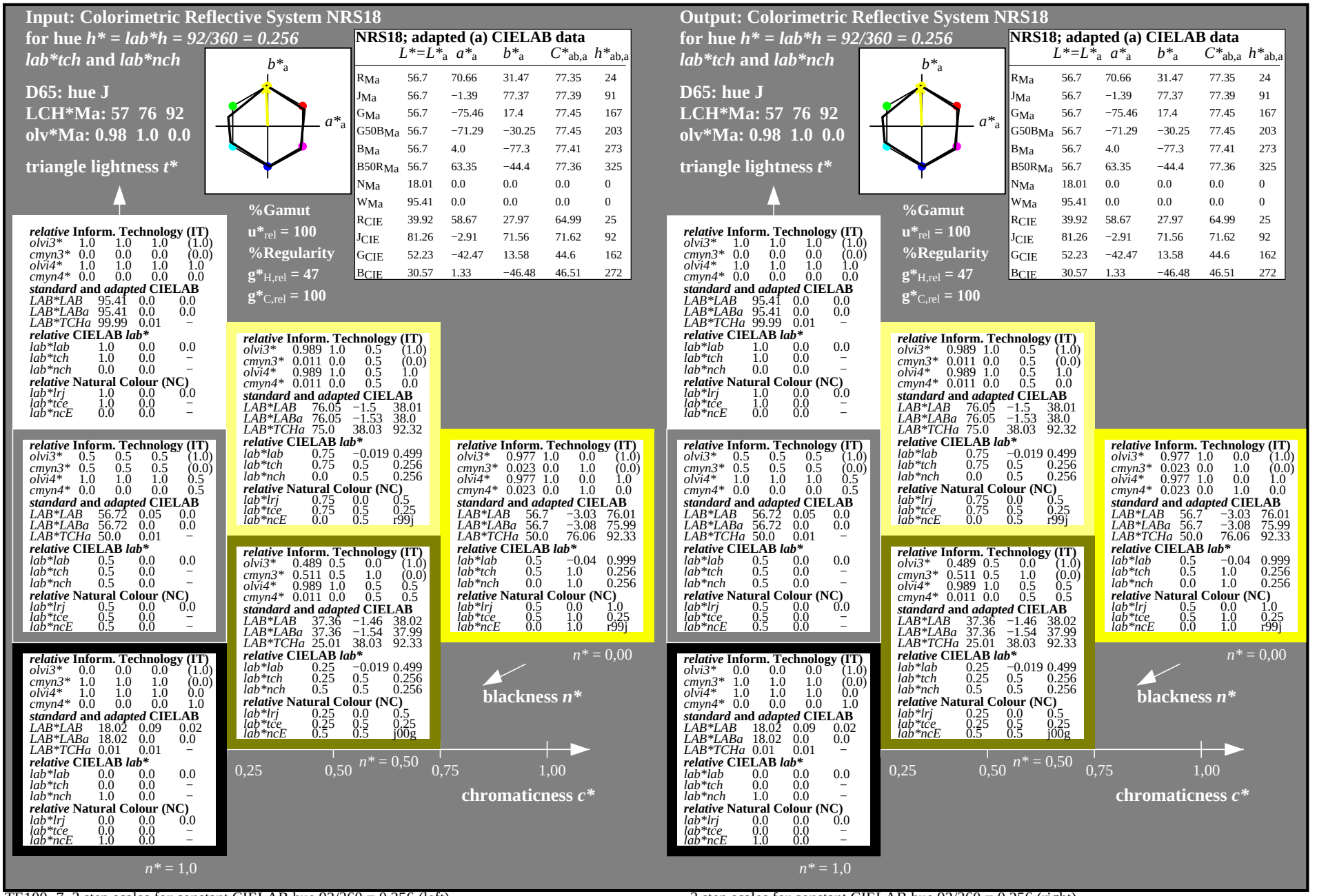
0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)



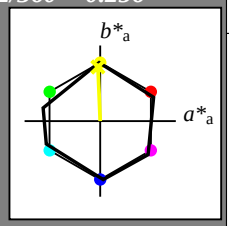
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

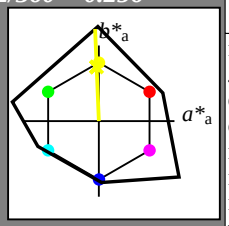
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

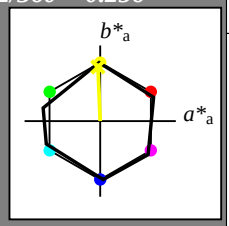
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

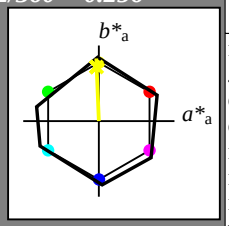
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

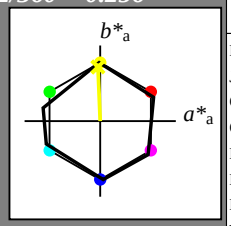
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

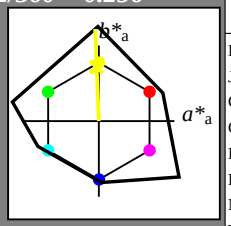
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

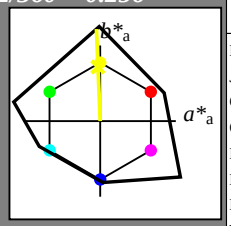
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

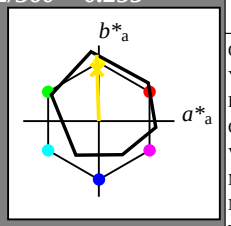
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

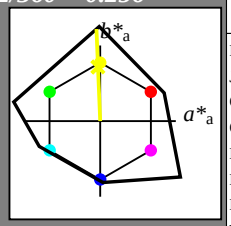
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

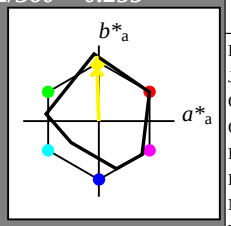
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

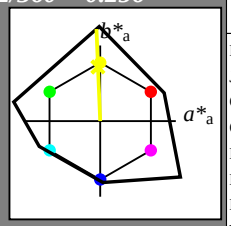
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

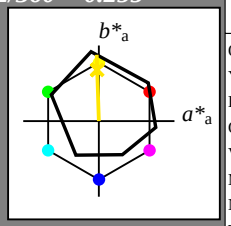
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

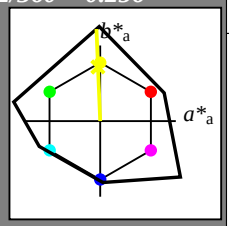
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NCS18

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

$n^* = 1{,}0$

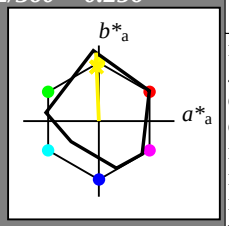
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

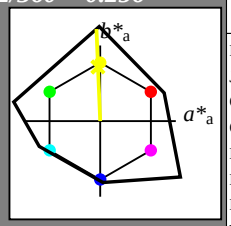
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

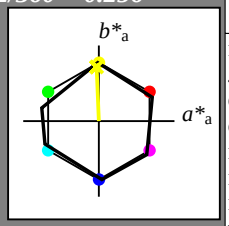
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

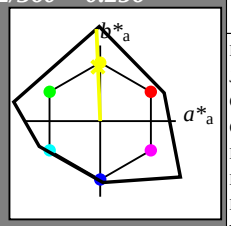
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

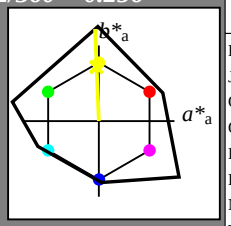
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

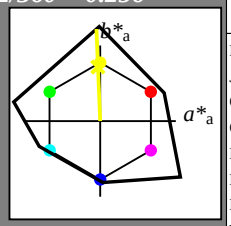
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

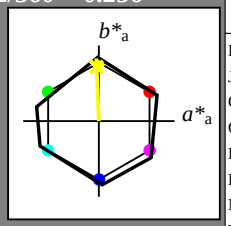
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

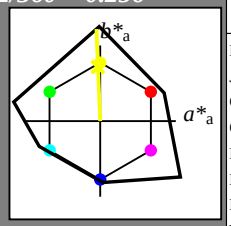
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

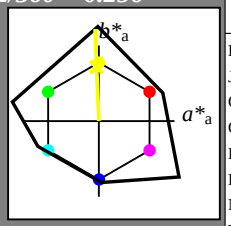
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

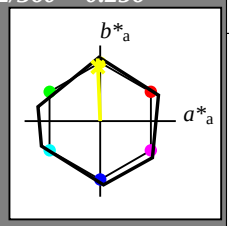
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

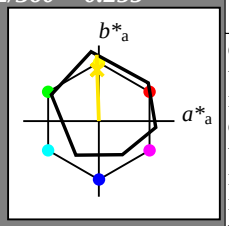
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

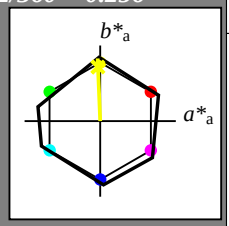
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

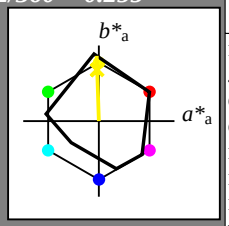
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0	(1.0)
*cmyn3**	0.0	0.049	1.0	(0.0)
*olvi4**	1.0	0.951	0.0	1.0
*cmyn4**	0.0	0.049	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

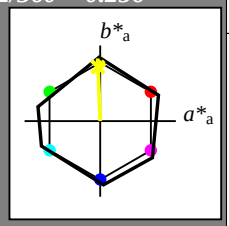
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

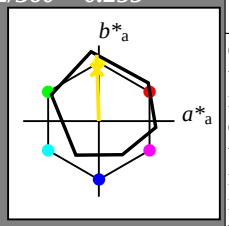
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

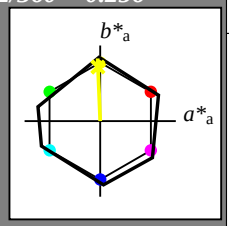
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

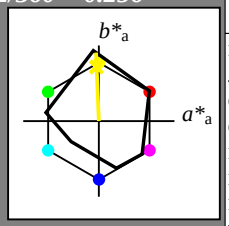
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

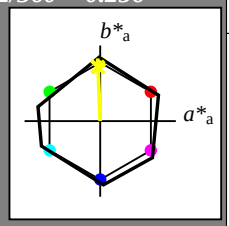
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

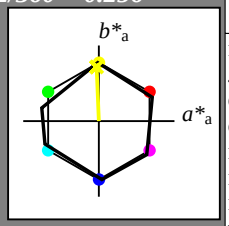
chromaticness *c**

$n^* = 1{,}0$

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

$n^* = 1{,}0$

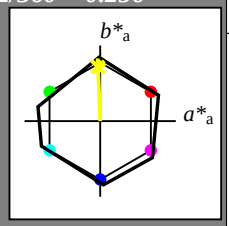
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

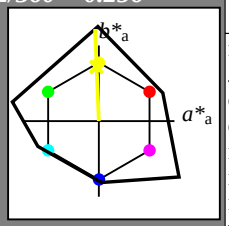
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

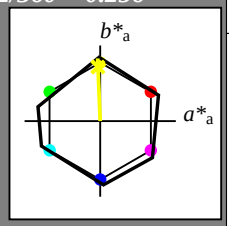
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

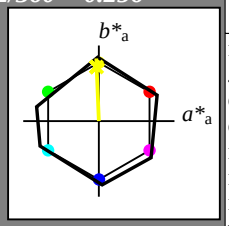
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

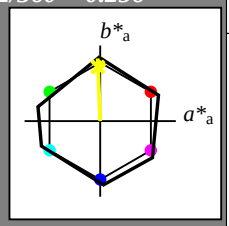
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

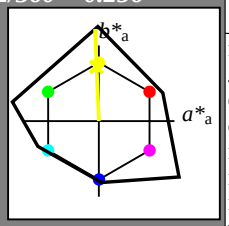
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

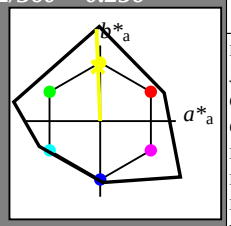
3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 92/360 = 0.256$
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5 (1.0)
*cmyn3**	0.016	0.0	0.5 (0.0)
*olvi4**	0.984	1.0	0.5 1.0
*cmyn4**	0.016	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0 (1.0)
*cmyn3**	0.516	0.5	1.0 (0.0)
*olvi4**	0.984	1.0	0.5 0.5
*cmyn4**	0.016	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0 (1.0)
*cmyn3**	0.033	0.0	1.0 (0.0)
*olvi4**	0.968	1.0	0.0 1.0
*cmyn4**	0.032	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

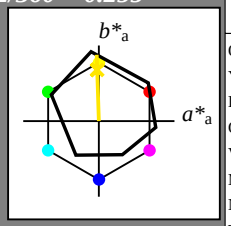
*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue $h^* = lab^*h = 92/360 = 0.255$
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5 (1.0)
*cmyn3**	0.0	0.049	0.5 (0.0)
*olvi4**	1.0	0.951	0.5 1.0
*cmyn4**	0.0	0.049	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0 (1.0)
*cmyn3**	0.5	0.549	1.0 (0.0)
*olvi4**	1.0	0.951	0.5 0.5
*cmyn4**	0.0	0.049	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0 (1.0)
*cmyn3**	0.0	0.099	1.0 (0.0)
*olvi4**	1.0	0.902	0.0 1.0
*cmyn4**	0.0	0.098	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

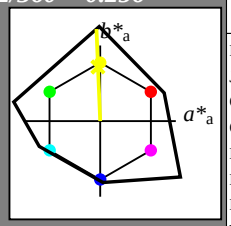
3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NCS11

for hue *h** = *lab*h* = 92/360 = 0.256
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5 (1.0)
*cmyn3**	0.016	0.0	0.5 (0.0)
*olvi4**	0.984	1.0	0.5 1.0
*cmyn4**	0.016	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0 (1.0)
*cmyn3**	0.516	0.5	1.0 (0.0)
*olvi4**	0.984	1.0	0.5 0.5
*cmyn4**	0.016	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0 (1.0)
*cmyn3**	0.033	0.0	1.0 (0.0)
*olvi4**	0.968	1.0	0.0 1.0
*cmyn4**	0.032	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

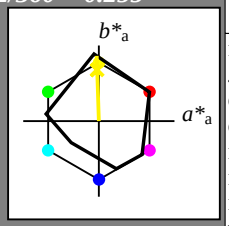
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 92/360 = 0.255
*lab*tch* and *lab*nch*

D65: hue J
LCH*Ma: 89 86 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5 (1.0)
*cmyn3**	0.0	0.024	0.5 (0.0)
*olvi4**	1.0	0.976	0.5 1.0
*cmyn4**	0.0	0.024	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.04	−2.3	47.67
*LAB*LABa*	92.04	−1.39	43.14
*LAB*TCHa*	75.0	43.16	91.85

relative* CIELAB *lab*

*lab*lab*	0.957	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0 (1.0)
*cmyn3**	0.5	0.524	1.0 (0.0)
*olvi4**	1.0	0.976	0.5 0.5
*cmyn4**	0.0	0.024	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.35	−1.55	45.05
*LAB*LABa*	53.35	−1.38	43.13
*LAB*TCHa*	25.01	43.16	91.84

relative* CIELAB *lab*

*lab*lab*	0.457	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.0 (1.0)
*cmyn3**	0.0	0.049	1.0 (0.0)
*olvi4**	1.0	0.951	0.0 1.0
*cmyn4**	0.0	0.049	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.68	−3.62	90.58
*LAB*LABa*	88.68	−2.77	86.27
*LAB*TCHa*	50.0	86.32	91.85

relative* CIELAB *lab*

*lab*lab*	0.913	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

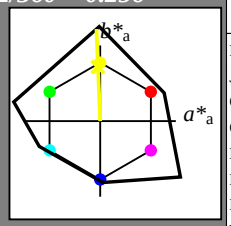
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

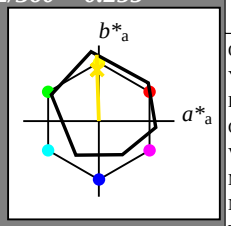
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 92/360 = 0.255**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 86 88 92
olv*Ma: 1.0 0.9 0.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.951	0.5	(1.0)
*cmyn3**	0.0	0.049	0.5	(0.0)
*olvi4**	1.0	0.951	0.5	1.0
*cmyn4**	0.0	0.049	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.8	−2.3	48.29
*LAB*LABa*	90.8	−1.41	43.85
*LAB*TCHa*	75.0	43.87	91.85

relative* CIELAB *lab*

*lab*lab*	0.94	−0.015	0.5
*lab*tch*	0.75	0.5	0.255
*lab*nch*	0.0	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.94	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.451	0.0	(1.0)
*cmyn3**	0.5	0.549	1.0	(0.0)
*olvi4**	1.0	0.951	0.5	0.5
*cmyn4**	0.0	0.049	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.1	−1.55	45.68
*LAB*LABa*	52.1	−1.4	43.84
*LAB*TCHa*	25.01	43.87	91.84

relative* CIELAB *lab*

*lab*lab*	0.44	−0.015	0.5
*lab*tch*	0.25	0.5	0.255
*lab*nch*	0.5	0.5	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.44	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.901	0.0	(1.0)
*cmyn3**	0.0	0.099	1.0	(0.0)
*olvi4**	1.0	0.902	0.0	1.0
*cmyn4**	0.0	0.098	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	86.19	−3.62	91.83
*LAB*LABa*	86.19	−2.82	87.69
*LAB*TCHa*	50.0	87.73	91.85

relative* CIELAB *lab*

*lab*lab*	0.881	−0.031	0.999
*lab*tch*	0.5	1.0	0.255
*lab*nch*	0.0	1.0	0.255

***relative* Natural Colour (NC)**

*lab*lrj*	0.881	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

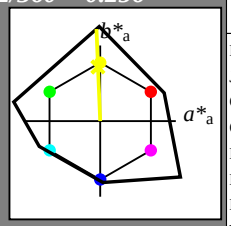
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

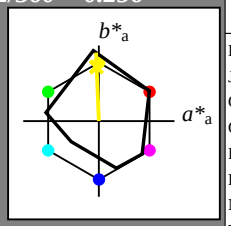
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 89 91 92
olv*Ma: 1.0 0.95 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.976	0.5	(1.0)
*cmyn3**	0.0	0.024	0.5	(0.0)
*olvi4**	1.0	0.976	0.5	1.0
*cmyn4**	0.0	0.024	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.06	−1.83	45.31
*LAB*LABa*	92.06	−1.84	45.31
*LAB*TCHa*	75.0	45.35	92.34

relative* CIELAB *lab*

*lab*lab*	0.957	−0.019	0.499
*lab*tch*	0.75	0.5	0.257
*lab*nch*	0.0	0.5	0.257

***relative* Natural Colour (NC)**

*lab*lrj*	0.957	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.476	0.0	(1.0)
*cmyn3**	0.5	0.524	1.0	(0.0)
*olvi4**	1.0	0.976	0.5	0.5
*cmyn4**	0.0	0.024	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.36	−1.78	45.32
*LAB*LABa*	53.36	−1.84	45.3
*LAB*TCHa*	25.01	45.34	92.33

relative* CIELAB *lab*

*lab*lab*	0.457	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.457	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	1.0	0.952	0.0	(1.0)
*cmyn3**	0.0	0.048	1.0	(0.0)
*olvi4**	1.0	0.952	0.0	1.0
*cmyn4**	0.0	0.048	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	88.71	−3.67	90.61
*LAB*LABa*	88.71	−3.69	90.61
*LAB*TCHa*	50.0	90.68	92.34

relative* CIELAB *lab*

*lab*lab*	0.913	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.913	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	j00g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

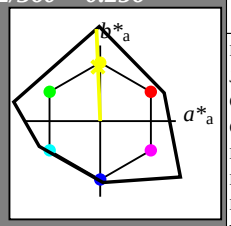
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

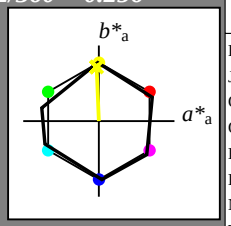
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 57 76 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−1.5	38.01
*LAB*LABa*	76.05	−1.53	38.0
*LAB*TCHa*	75.0	38.03	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−1.46	38.02
*LAB*LABa*	37.36	−1.54	37.99
*LAB*TCHa*	25.01	38.03	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−3.03	76.01
*LAB*LABa*	56.7	−3.08	75.99
*LAB*TCHa*	50.0	76.06	92.33

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

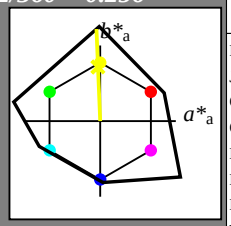
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

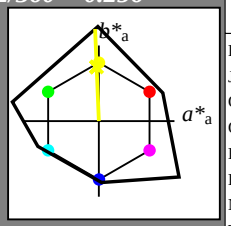
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.45	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.968	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.968	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	54.23	−2.41	60.89
*LAB*LABa*	54.23	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.468	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.468	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.93	121.76
*LAB*LABa*	90.45	−4.94	121.77
*LAB*TCHa*	50.0	121.87	92.33

relative* CIELAB *lab*

*lab*lab*	0.936	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.936	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

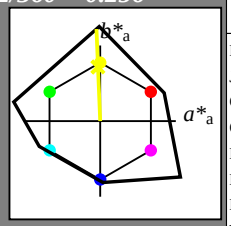
TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

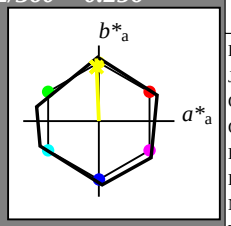
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 53 83 92
olv*Ma: 0.98 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.989	1.0	0.5	(1.0)
*cmyn3**	0.011	0.0	0.5	(0.0)
*olvi4**	0.989	1.0	0.5	1.0
*cmyn4**	0.011	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−1.64	41.44
*LAB*LABa*	74.3	−1.67	41.44
*LAB*TCHa*	75.0	41.47	92.32

relative* CIELAB *lab*

*lab*lab*	0.75	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.489	0.5	0.0	(1.0)
*cmyn3**	0.511	0.5	1.0	(0.0)
*olvi4**	0.989	1.0	0.5	0.5
*cmyn4**	0.011	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−1.62	41.45
*LAB*LABa*	32.1	−1.68	41.43
*LAB*TCHa*	25.01	41.46	92.33

relative* CIELAB *lab*

*lab*lab*	0.25	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.977	1.0	0.0	(1.0)
*cmyn3**	0.023	0.0	1.0	(0.0)
*olvi4**	0.977	1.0	0.0	1.0
*cmyn4**	0.023	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−3.31	82.87
*LAB*LABa*	53.2	−3.35	82.86
*LAB*TCHa*	50.0	82.93	92.32

relative* CIELAB *lab*

*lab*lab*	0.5	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

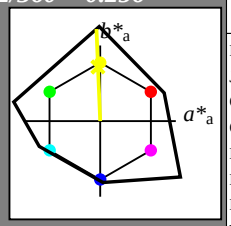
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

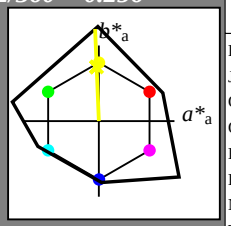
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 92/360 = 0.256**
lab*tch* and *lab*nch

D65: hue J
LCH*Ma: 90 122 92
olv*Ma: 0.97 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.984	1.0	0.5	(1.0)
*cmyn3**	0.016	0.0	0.5	(0.0)
*olvi4**	0.984	1.0	0.5	1.0
*cmyn4**	0.016	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	92.92	−2.44	60.89
*LAB*LABa*	92.92	−2.46	60.89
*LAB*TCHa*	75.0	60.94	92.32

relative* CIELAB *lab*

*lab*lab*	0.971	−0.019	0.499
*lab*tch*	0.75	0.5	0.256
*lab*nch*	0.0	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.971	0.0	0.5
*lab*tce*	0.75	0.5	0.25
*lab*ncE*	0.0	0.5	r99j

***relative* Inform. Technology (IT)**

*olvi3**	0.484	0.5	0.0	(1.0)
*cmyn3**	0.516	0.5	1.0	(0.0)
*olvi4**	0.984	1.0	0.5	0.5
*cmyn4**	0.016	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	50.72	−2.42	60.89
*LAB*LABa*	50.72	−2.47	60.88
*LAB*TCHa*	25.01	60.93	92.33

relative* CIELAB *lab*

*lab*lab*	0.471	−0.019	0.499
*lab*tch*	0.25	0.5	0.256
*lab*nch*	0.5	0.5	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.471	0.0	0.5
*lab*tce*	0.25	0.5	0.25
*lab*ncE*	0.5	0.5	j00g

***relative* Inform. Technology (IT)**

*olvi3**	0.967	1.0	0.0	(1.0)
*cmyn3**	0.033	0.0	1.0	(0.0)
*olvi4**	0.968	1.0	0.0	1.0
*cmyn4**	0.032	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	90.45	−4.92	121.77
*LAB*LABa*	90.45	−4.93	121.77
*LAB*TCHa*	50.0	121.87	92.32

relative* CIELAB *lab*

*lab*lab*	0.941	−0.04	0.999
*lab*tch*	0.5	1.0	0.256
*lab*nch*	0.0	1.0	0.256

***relative* Natural Colour (NC)**

*lab*lrj*	0.941	0.0	1.0
*lab*tce*	0.5	1.0	0.25
*lab*ncE*	0.0	1.0	r99j

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

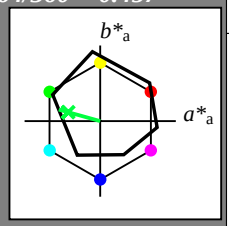
*n** = 1,0

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

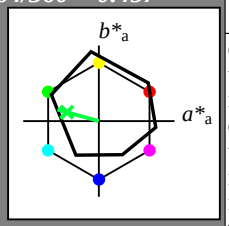
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
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relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

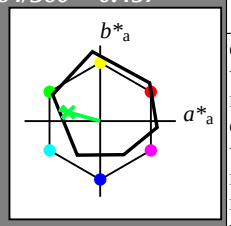
*n** = 1,0

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

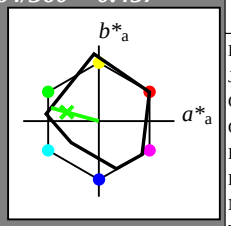
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.5	(1.0)
*cmyn3**	0.5	0.0	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

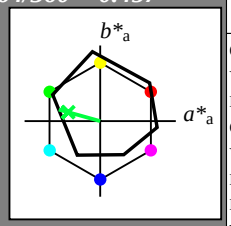
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

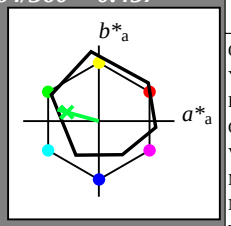
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

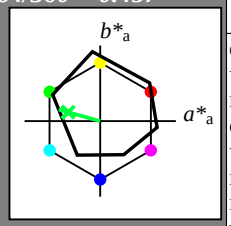
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

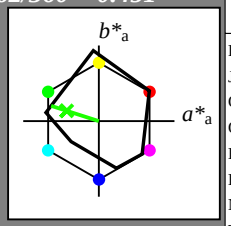
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

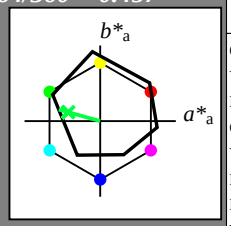
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

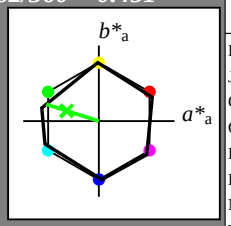
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

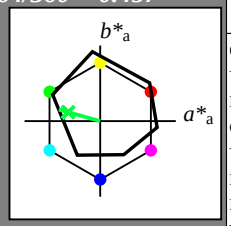
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 −0.97 4.75
*LAB*LABa* 95.41 0.0 0.0
*LAB*TCHa* 99.99 0.01 –
relative* CIELAB *lab*
*lab*lab* 1.0 0.0 0.0
*lab*tch* 1.0 0.0 –
*lab*nch* 0.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 1.0 0.0 0.0
*lab*tce* 1.0 0.0 –
*lab*ncE* 0.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.5 1.0 0.623 (1.0)
*cmyn3** 0.5 0.0 0.377 (0.0)
*olvi4** 0.5 1.0 0.623 1.0
*cmyn4** 0.5 0.0 0.377 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 74.1 −27.96 10.94
*LAB*LABa* 74.1 −27.39 7.62
*LAB*TCHa* 75.0 28.44 164.46
relative* CIELAB *lab*
*lab*lab* 0.725 −0.481 0.134
*lab*tch* 0.75 0.5 0.457
*lab*nch* 0.0 0.5 0.457
***relative* Natural Colour (NC)**
*lab*lrj* 0.725 −0.499 0.0
*lab*tce* 0.75 0.5 0.5
*lab*ncE* 0.0 0.5 g00b

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.71 −0.23 2.14
*LAB*LABa* 56.71 0.0 0.0
*LAB*TCHa* 50.0 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.5 0.0 0.0
*lab*tch* 0.5 0.0 –
*lab*nch* 0.5 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.0 0.0
*lab*tce* 0.5 0.0 –
*lab*ncE* 0.5 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.5 0.123 (1.0)
*cmyn3** 1.0 0.5 0.877 (0.0)
*olvi4** 0.5 1.0 0.623 0.5
*cmyn4** 0.5 0.0 0.377 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 35.41 −27.22 8.34
*LAB*LABa* 35.41 −27.39 7.63
*LAB*TCHa* 25.01 28.44 164.45
relative* CIELAB *lab*
*lab*lab* 0.225 −0.481 0.134
*lab*tch* 0.25 0.5 0.457
*lab*nch* 0.5 0.5 0.457
***relative* Natural Colour (NC)**
*lab*lrj* 0.225 −0.499 0.0
*lab*tce* 0.25 0.5 0.5
*lab*ncE* 0.5 0.5 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.246 (1.0)
*cmyn3** 1.0 0.0 0.754 (0.0)
*olvi4** 0.0 1.0 0.246 1.0
*cmyn4** 1.0 0.0 0.754 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 52.8 −54.95 17.13
*LAB*LABa* 52.8 −54.79 15.24
*LAB*TCHa* 50.0 56.88 164.45
relative* CIELAB *lab*
*lab*lab* 0.45 −0.962 0.268
*lab*tch* 0.5 1.0 0.457
*lab*nch* 0.0 1.0 0.457
***relative* Natural Colour (NC)**
*lab*lrj* 0.45 −0.999 0.0
*lab*tce* 0.5 1.0 0.5
*lab*ncE* 0.0 1.0 j99g

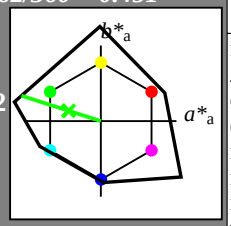
***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.02 0.5 −0.46
*LAB*LABa* 18.02 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 −0.01
*LAB*LABa* 95.41 0.0 0.0
*LAB*TCHa* 99.99 0.01 –
relative* CIELAB *lab*
*lab*lab* 1.0 0.0 0.0
*lab*tch* 1.0 0.0 –
*lab*nch* 0.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 1.0 0.0 0.0
*lab*tce* 1.0 0.0 –
*lab*ncE* 0.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.541 1.0 0.5 (1.0)
*cmyn3** 0.459 0.0 0.5 (0.0)
*olvi4** 0.541 1.0 0.5 1.0
*cmyn4** 0.459 0.0 0.5 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 80.4 −52.44 16.79
*LAB*LABa* 80.4 −52.46 16.78
*LAB*TCHa* 75.0 55.09 162.26
relative* CIELAB *lab*
*lab*lab* 0.806 −0.475 0.152
*lab*tch* 0.75 0.5 0.451
*lab*nch* 0.0 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.806 −0.499 0.0
*lab*tce* 0.75 0.5 0.5
*lab*ncE* 0.0 0.5 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.72 0.05 0.0
*LAB*LABa* 56.72 0.0 0.0
*LAB*TCHa* 50.0 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.5 0.0 0.0
*lab*tch* 0.5 0.0 –
*lab*nch* 0.5 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.0 0.0
*lab*tce* 0.5 0.0 –
*lab*ncE* 0.5 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.041 0.5 0.0 (1.0)
*cmyn3** 0.959 0.5 1.0 (0.0)
*olvi4** 0.541 1.0 0.5 0.5
*cmyn4** 0.459 0.0 0.5 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 41.71 −52.4 16.79
*LAB*LABa* 41.71 −52.47 16.77
*LAB*TCHa* 25.01 55.1 162.28
relative* CIELAB *lab*
*lab*lab* 0.306 −0.475 0.152
*lab*tch* 0.25 0.5 0.451
*lab*nch* 0.5 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.306 −0.499 0.0
*lab*tce* 0.25 0.5 0.5
*lab*ncE* 0.5 0.5 g00b

***relative* Inform. Technology (IT)**
*olvi3** 0.083 1.0 0.0 (1.0)
*cmyn3** 0.917 0.0 1.0 (0.0)
*olvi4** 0.083 1.0 0.0 1.0
*cmyn4** 0.917 0.0 1.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 65.4 −104.9 33.56
*LAB*LABa* 65.4 −104.95 33.55
*LAB*TCHa* 50.0 110.19 162.27
relative* CIELAB *lab*
*lab*lab* 0.612 −0.951 0.304
*lab*tch* 0.5 1.0 0.451
*lab*nch* 0.0 1.0 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.612 −0.999 0.0
*lab*tce* 0.5 1.0 0.5
*lab*ncE* 0.0 1.0 g00b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.02 0.09 0.02
*LAB*LABa* 18.02 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

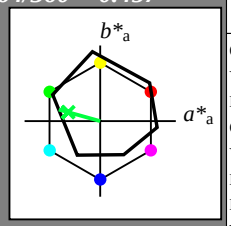
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 −0.97 4.75
*LAB*LABa* 95.41 0.0 0.0
*LAB*TCHa* 99.99 0.01 –
relative* CIELAB *lab*
*lab*lab* 1.0 0.0 0.0
*lab*tch* 1.0 0.0 –
*lab*nch* 0.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 1.0 0.0 0.0
*lab*tce* 1.0 0.0 –
*lab*ncE* 0.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 56.71 −0.23 2.14
*LAB*LABa* 56.71 0.0 0.0
*LAB*TCHa* 50.0 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.5 0.0 0.0
*lab*tch* 0.5 0.0 –
*lab*nch* 0.5 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.0 0.0
*lab*tce* 0.5 0.0 –
*lab*ncE* 0.5 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 18.02 0.5 −0.46
*LAB*LABa* 18.02 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.5 1.0 0.623 (1.0)
*cmyn3** 0.5 0.0 0.377 (0.0)
*olvi4** 0.5 1.0 0.623 1.0
*cmyn4** 0.5 0.0 0.377 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 74.1 −27.96 10.94
*LAB*LABa* 74.1 −27.39 7.62
*LAB*TCHa* 75.0 28.44 164.46
relative* CIELAB *lab*
*lab*lab* 0.725 −0.481 0.134
*lab*tch* 0.75 0.5 0.457
*lab*nch* 0.0 0.5 0.457
***relative* Natural Colour (NC)**
*lab*lrj* 0.725 −0.499 0.0
*lab*tce* 0.75 0.5 0.5
*lab*ncE* 0.0 0.5 g00b

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.5 0.123 (1.0)
*cmyn3** 1.0 0.5 0.877 (0.0)
*olvi4** 0.5 1.0 0.623 0.5
*cmyn4** 0.5 0.0 0.377 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 35.41 −27.22 8.34
*LAB*LABa* 35.41 −27.39 7.63
*LAB*TCHa* 25.01 28.44 164.45
relative* CIELAB *lab*
*lab*lab* 0.225 −0.481 0.134
*lab*tch* 0.25 0.5 0.457
*lab*nch* 0.5 0.5 0.457
***relative* Natural Colour (NC)**
*lab*lrj* 0.225 −0.499 0.0
*lab*tce* 0.25 0.5 0.5
*lab*ncE* 0.5 0.5 j99g

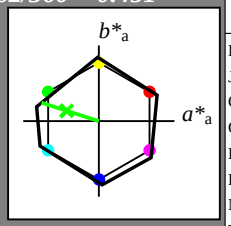
***relative* Inform. Technology (IT)**
*olvi3** 0.0 1.0 0.246 (1.0)
*cmyn3** 1.0 0.0 0.754 (0.0)
*olvi4** 0.0 1.0 0.246 1.0
*cmyn4** 1.0 0.0 0.754 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 52.8 −54.95 17.13
*LAB*LABa* 52.8 −54.79 15.24
*LAB*TCHa* 50.0 56.88 164.45
relative* CIELAB *lab*
*lab*lab* 0.45 −0.962 0.268
*lab*tch* 0.5 1.0 0.457
*lab*nch* 0.0 1.0 0.457
***relative* Natural Colour (NC)**
*lab*lrj* 0.45 −0.999 0.0
*lab*tce* 0.5 1.0 0.5
*lab*ncE* 0.0 1.0 j99g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**
*olvi3** 1.0 1.0 1.0 (1.0)
*cmyn3** 0.0 0.0 0.0 (0.0)
*olvi4** 1.0 1.0 1.0 1.0
*cmyn4** 0.0 0.0 0.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 95.41 0.0 −0.01
*LAB*LABa* 95.41 0.0 0.0
*LAB*TCHa* 99.99 0.01 –
relative* CIELAB *lab*
*lab*lab* 1.0 0.0 0.0
*lab*tch* 1.0 0.0 –
*lab*nch* 0.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 1.0 0.0 0.0
*lab*tce* 1.0 0.0 –
*lab*ncE* 0.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.5 0.5 0.5 (1.0)
*cmyn3** 0.5 0.5 0.5 (0.0)
*olvi4** 1.0 1.0 1.0 0.5
*cmyn4** 0.0 0.0 0.0 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 53.21 0.04 0.0
*LAB*LABa* 53.21 0.0 0.0
*LAB*TCHa* 50.0 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.5 0.0 0.0
*lab*tch* 0.5 0.0 –
*lab*nch* 0.5 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 0.0 0.0
*lab*tce* 0.5 0.0 –
*lab*ncE* 0.5 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.0 0.0 0.0 (1.0)
*cmyn3** 1.0 1.0 1.0 (0.0)
*olvi4** 1.0 1.0 1.0 0.0
*cmyn4** 0.0 0.0 0.0 1.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 11.01 0.07 0.01
*LAB*LABa* 11.01 0.0 0.0
*LAB*TCHa* 0.01 0.01 –
relative* CIELAB *lab*
*lab*lab* 0.0 0.0 0.0
*lab*tch* 0.0 0.0 –
*lab*nch* 1.0 0.0 –
***relative* Natural Colour (NC)**
*lab*lrj* 0.0 0.0 0.0
*lab*tce* 0.0 0.0 –
*lab*ncE* 1.0 0.0 –

***relative* Inform. Technology (IT)**
*olvi3** 0.54 1.0 0.5 (1.0)
*cmyn3** 0.46 0.0 0.5 (0.0)
*olvi4** 0.54 1.0 0.5 1.0
*cmyn4** 0.46 0.0 0.5 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 74.3 −37.84 12.13
*LAB*LABa* 74.3 −37.87 12.12
*LAB*TCHa* 75.0 39.77 162.25
relative* CIELAB *lab*
*lab*lab* 0.75 −0.475 0.152
*lab*tch* 0.75 0.5 0.451
*lab*nch* 0.0 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.75 −0.499 0.0
*lab*tce* 0.75 0.5 0.5
*lab*ncE* 0.0 0.5 j99g

***relative* Inform. Technology (IT)**
*olvi3** 0.04 0.5 0.0 (1.0)
*cmyn3** 0.96 0.5 1.0 (0.0)
*olvi4** 0.54 1.0 0.5 0.5
*cmyn4** 0.46 0.0 0.5 0.5
***standard* and *adapted* CIELAB**
*LAB*LAB* 32.1 −37.81 12.13
*LAB*LABa* 32.1 −37.87 12.12
*LAB*TCHa* 25.01 39.77 162.27
relative* CIELAB *lab*
*lab*lab* 0.25 −0.475 0.152
*lab*tch* 0.25 0.5 0.451
*lab*nch* 0.5 0.5 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.25 −0.499 0.0
*lab*tce* 0.25 0.5 0.5
*lab*ncE* 0.5 0.5 g00b

***relative* Inform. Technology (IT)**
*olvi3** 0.081 1.0 0.0 (1.0)
*cmyn3** 0.919 0.0 1.0 (0.0)
*olvi4** 0.081 1.0 0.0 1.0
*cmyn4** 0.919 0.0 1.0 0.0
***standard* and *adapted* CIELAB**
*LAB*LAB* 53.2 −75.71 24.25
*LAB*LABa* 53.2 −75.75 24.24
*LAB*TCHa* 50.0 79.54 162.26
relative* CIELAB *lab*
*lab*lab* 0.5 −0.951 0.305
*lab*tch* 0.5 1.0 0.451
*lab*nch* 0.0 1.0 0.451
***relative* Natural Colour (NC)**
*lab*lrj* 0.5 −0.999 0.0
*lab*tce* 0.5 1.0 0.5
*lab*ncE* 0.0 1.0 g00b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

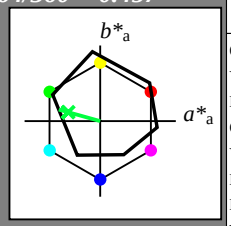
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

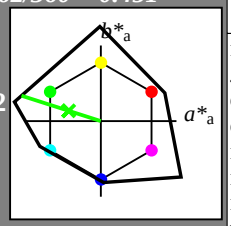
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

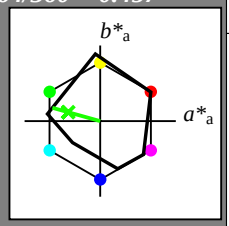
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

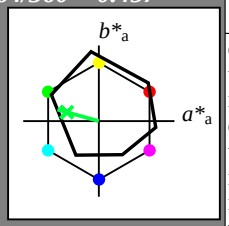
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

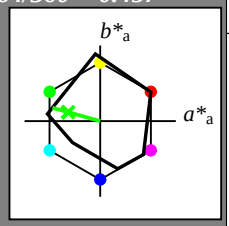
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

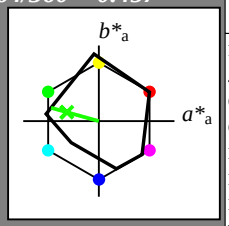
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

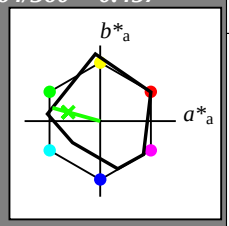
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

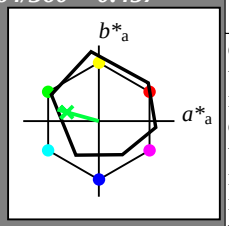
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

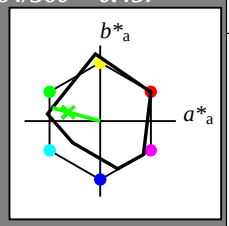
*n** = 1,0

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

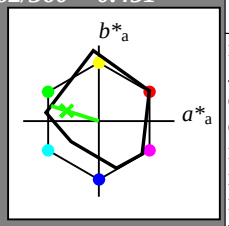
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

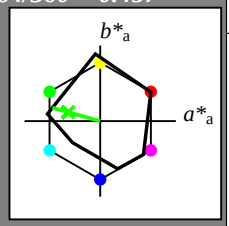
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

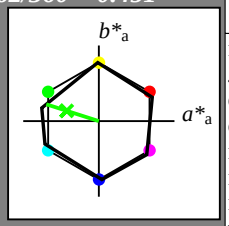
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

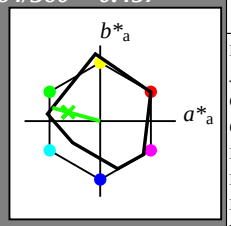
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

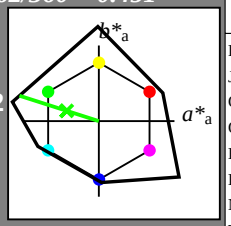
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

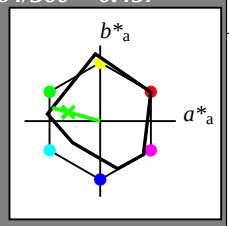
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

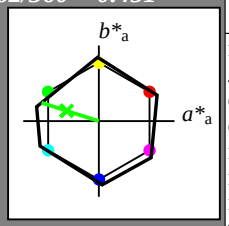
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

*n** = 0,50

0,25 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

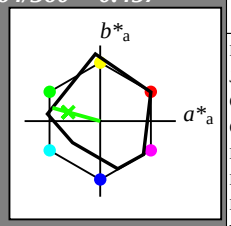
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

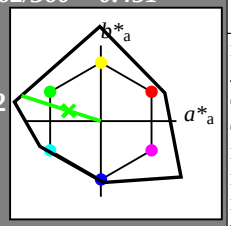
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

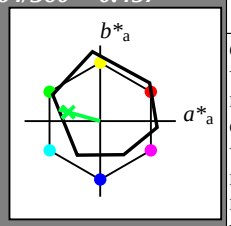
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

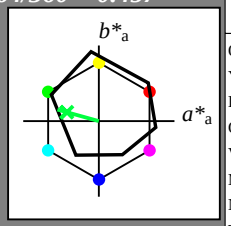
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

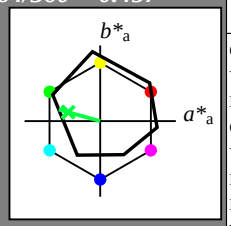
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

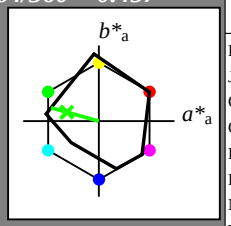
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

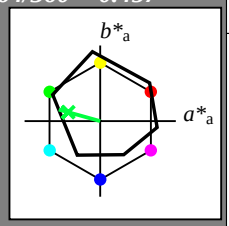
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

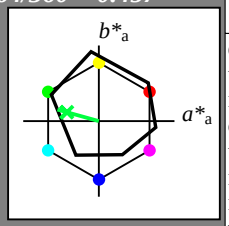
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

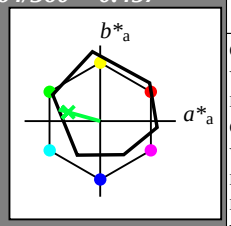
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

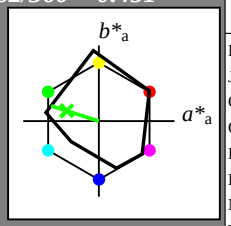
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

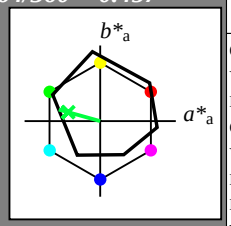
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

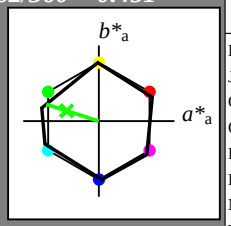
*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00
blackness *n**
*n** = 0,50
0,25 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

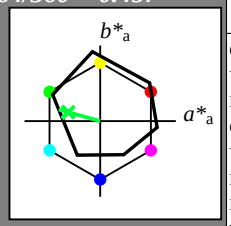
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

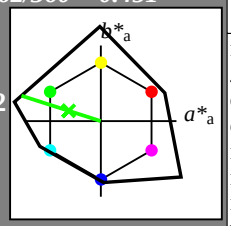
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

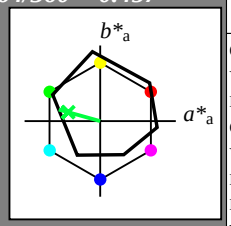
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

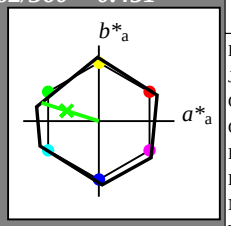
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

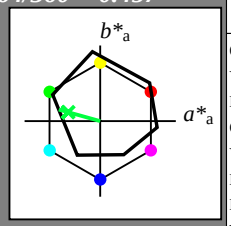
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

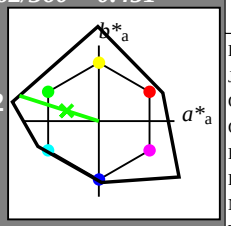
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

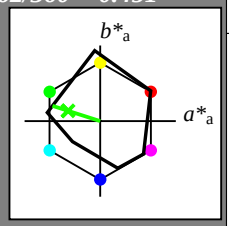
TE100−7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5 (1.0)
*cmyn3**	0.446	0.0	0.5 (0.0)
*olvi4**	0.555	1.0	0.5 1.0
*cmyn4**	0.445	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0 (1.0)
*cmyn3**	0.946	0.5	1.0 (0.0)
*olvi4**	0.554	1.0	0.5 0.5
*cmyn4**	0.446	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0 (1.0)
*cmyn3**	0.891	0.0	1.0 (0.0)
*olvi4**	0.109	1.0	0.0 1.0
*cmyn4**	0.891	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

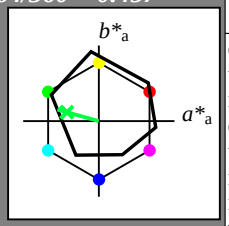
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623 (1.0)
*cmyn3**	0.5	0.0	0.377 (0.0)
*olvi4**	0.5	1.0	0.623 1.0
*cmyn4**	0.5	0.0	0.377 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123 (1.0)
*cmyn3**	1.0	0.5	0.877 (0.0)
*olvi4**	0.5	1.0	0.623 0.5
*cmyn4**	0.5	0.0	0.377 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246 (1.0)
*cmyn3**	1.0	0.0	0.754 (0.0)
*olvi4**	0.0	1.0	0.246 1.0
*cmyn4**	1.0	0.0	0.754 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

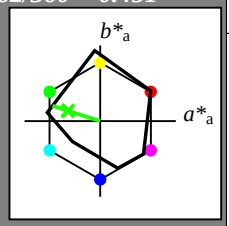
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

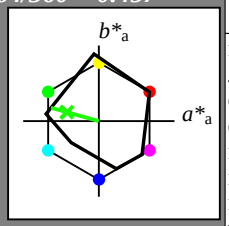
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 164/360 = 0.457
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

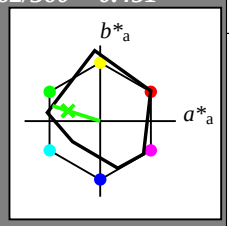
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5 (1.0)
*cmyn3**	0.446	0.0	0.5 (0.0)
*olvi4**	0.555	1.0	0.5 1.0
*cmyn4**	0.445	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0 (1.0)
*cmyn3**	0.946	0.5	1.0 (0.0)
*olvi4**	0.554	1.0	0.5 0.5
*cmyn4**	0.446	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0 (1.0)
*cmyn3**	0.891	0.0	1.0 (0.0)
*olvi4**	0.109	1.0	0.0 1.0
*cmyn4**	0.891	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

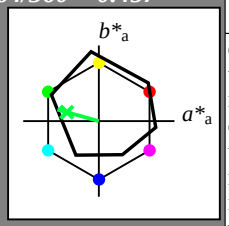
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u*rel = 93
%Regularity
g*H,rel = 57
g*C,rel = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623 (1.0)
*cmyn3**	0.5	0.0	0.377 (0.0)
*olvi4**	0.5	1.0	0.623 1.0
*cmyn4**	0.5	0.0	0.377 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123 (1.0)
*cmyn3**	1.0	0.5	0.877 (0.0)
*olvi4**	0.5	1.0	0.623 0.5
*cmyn4**	0.5	0.0	0.377 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246 (1.0)
*cmyn3**	1.0	0.0	0.754 (0.0)
*olvi4**	0.0	1.0	0.246 1.0
*cmyn4**	1.0	0.0	0.754 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

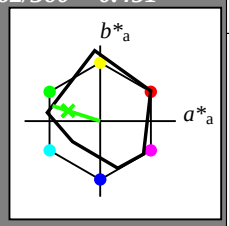
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

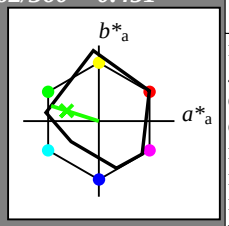
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

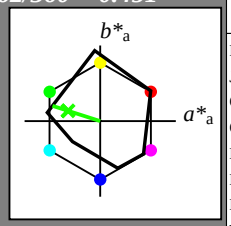
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

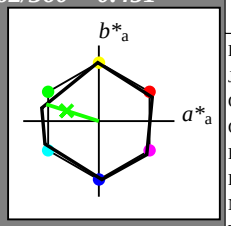
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

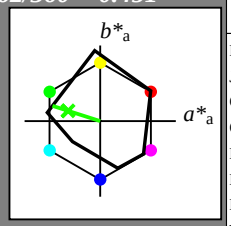
*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

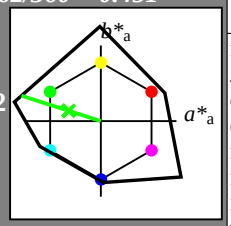
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

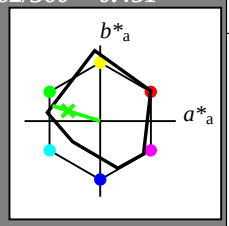
3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

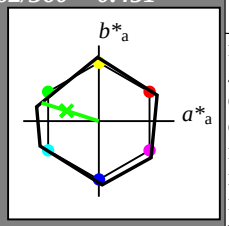
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS11

for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

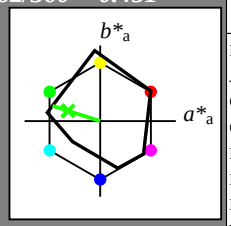
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

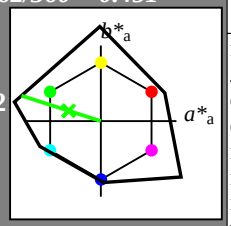
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

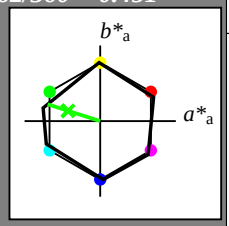
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

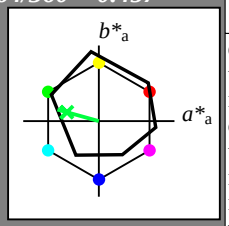
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.623	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

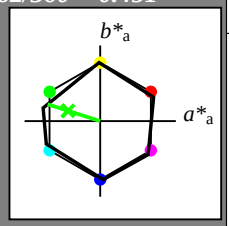
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

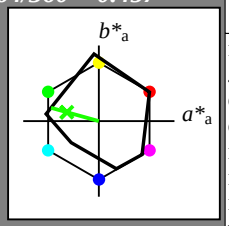
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

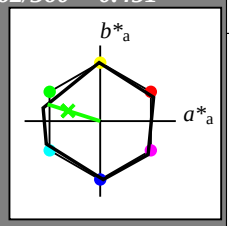
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

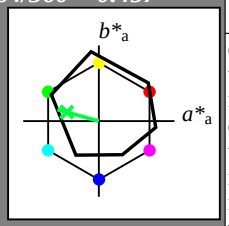
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

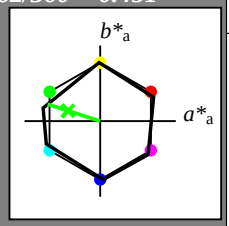
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u*$_{rel}$ = 100
%Regularity
g*$_{H,rel}$ = 47
g*$_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

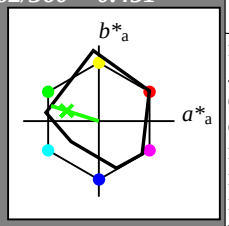
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u*$_{rel}$ = 92
%Regularity
g*$_{H,rel}$ = 42
g*$_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

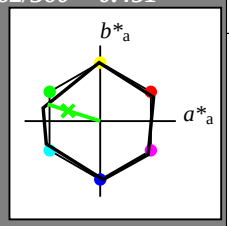
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

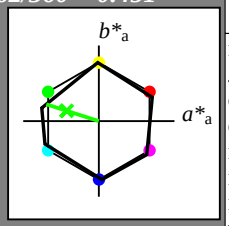
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

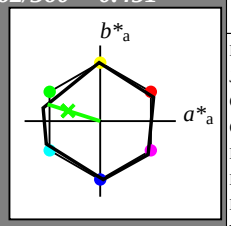
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

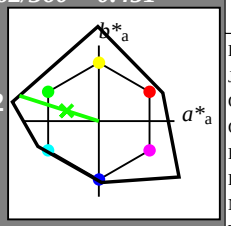
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

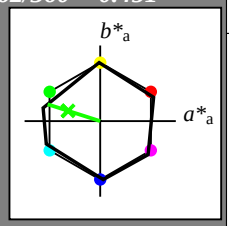
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

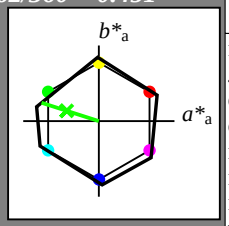
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

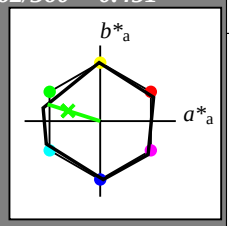
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

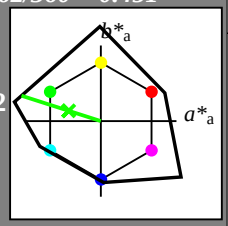
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

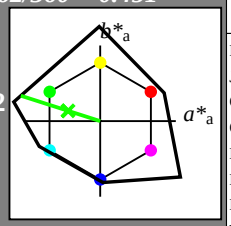
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5 (1.0)
*cmyn3**	0.459	0.0	0.5 (0.0)
*olvi4**	0.541	1.0	0.5 1.0
*cmyn4**	0.459	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0 (1.0)
*cmyn3**	0.959	0.5	1.0 (0.0)
*olvi4**	0.541	1.0	0.5 0.5
*cmyn4**	0.459	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0 (1.0)
*cmyn3**	0.917	0.0	1.0 (0.0)
*olvi4**	0.083	1.0	0.0 1.0
*cmyn4**	0.917	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

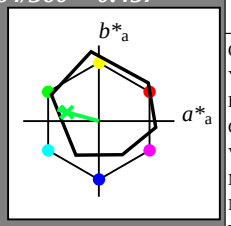
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623 (1.0)
*cmyn3**	0.5	0.0	0.377 (0.0)
*olvi4**	0.5	1.0	0.623 1.0
*cmyn4**	0.5	0.0	0.377 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123 (1.0)
*cmyn3**	1.0	0.5	0.877 (0.0)
*olvi4**	0.5	1.0	0.623 0.5
*cmyn4**	0.5	0.0	0.377 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246 (1.0)
*cmyn3**	1.0	0.0	0.754 (0.0)
*olvi4**	0.0	1.0	0.246 1.0
*cmyn4**	1.0	0.0	0.754 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

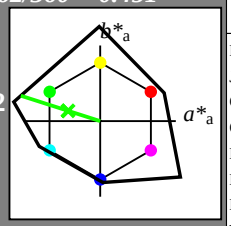
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.29	25.34	117.07	167
G50BMa	59.47	−80.61	−33.45	87.29	203
BMa	49.01	3.63	−81.2	81.29	273
B50RMa	44.06	106.07	−73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

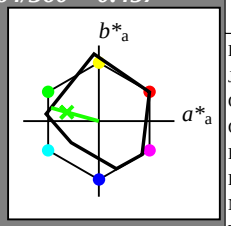
*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

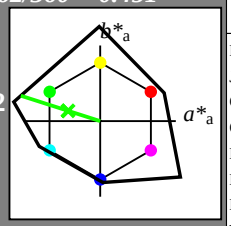
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

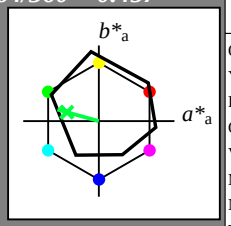
*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623	(1.0)
*cmyn3**	0.5	0.0	0.377	(0.0)
*olvi4**	0.5	1.0	0.623	1.0
*cmyn4**	0.5	0.0	0.377	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123	(1.0)
*cmyn3**	1.0	0.5	0.877	(0.0)
*olvi4**	0.5	1.0	0.623	0.5
*cmyn4**	0.5	0.0	0.377	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246	(1.0)
*cmyn3**	1.0	0.0	0.754	(0.0)
*olvi4**	0.0	1.0	0.246	1.0
*cmyn4**	1.0	0.0	0.754	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

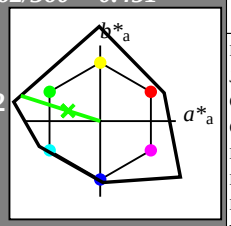
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

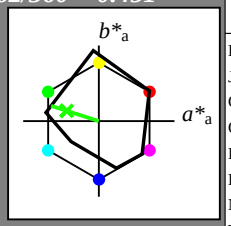
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

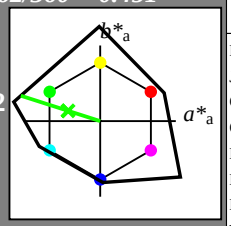
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.29	25.34	117.07	167
G50BMa	59.47	−80.61	−33.45	87.29	203
BMa	49.01	3.63	−81.2	81.29	273
B50RMa	44.06	106.07	−73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 136
%Regularity
g*H,rel = 46
g*C,rel = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

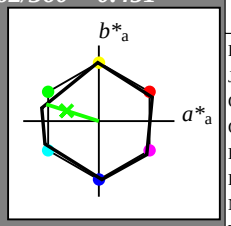
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	L=L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 100
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

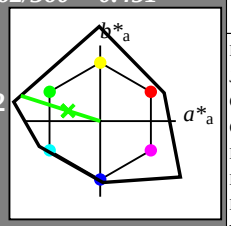
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

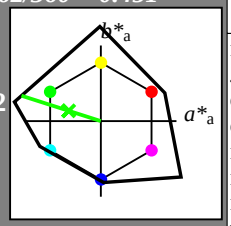
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

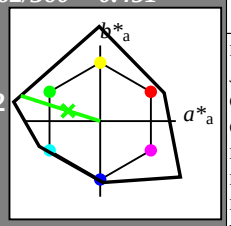
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

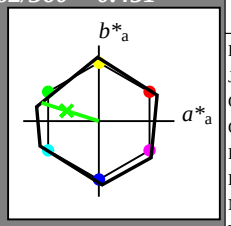
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

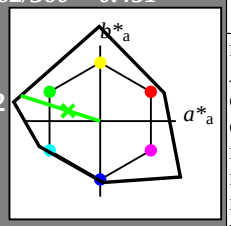
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

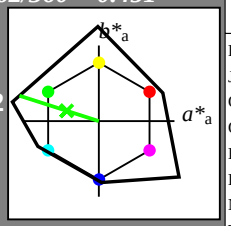
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

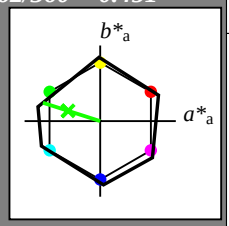
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5 (1.0)
*cmyn3**	0.46	0.0	0.5 (0.0)
*olvi4**	0.54	1.0	0.5 1.0
*cmyn4**	0.46	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0 (1.0)
*cmyn3**	0.96	0.5	1.0 (0.0)
*olvi4**	0.54	1.0	0.5 0.5
*cmyn4**	0.46	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0 (1.0)
*cmyn3**	0.919	0.0	1.0 (0.0)
*olvi4**	0.081	1.0	0.0 1.0
*cmyn4**	0.919	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

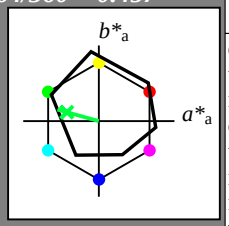
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623 (1.0)
*cmyn3**	0.5	0.0	0.377 (0.0)
*olvi4**	0.5	1.0	0.623 1.0
*cmyn4**	0.5	0.0	0.377 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123 (1.0)
*cmyn3**	1.0	0.5	0.877 (0.0)
*olvi4**	0.5	1.0	0.623 0.5
*cmyn4**	0.5	0.0	0.377 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246 (1.0)
*cmyn3**	1.0	0.0	0.754 (0.0)
*olvi4**	0.0	1.0	0.246 1.0
*cmyn4**	1.0	0.0	0.754 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

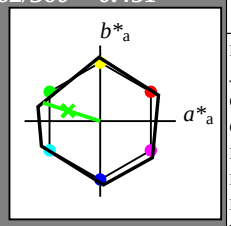
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

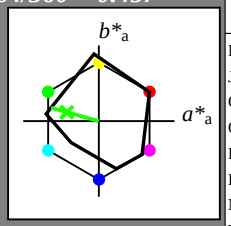
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

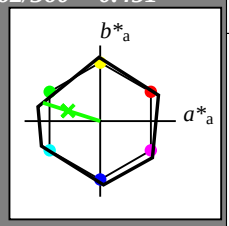
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5 (1.0)
*cmyn3**	0.46	0.0	0.5 (0.0)
*olvi4**	0.54	1.0	0.5 1.0
*cmyn4**	0.46	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0 (1.0)
*cmyn3**	0.96	0.5	1.0 (0.0)
*olvi4**	0.54	1.0	0.5 0.5
*cmyn4**	0.46	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0 (1.0)
*cmyn3**	0.919	0.0	1.0 (0.0)
*olvi4**	0.081	1.0	0.0 1.0
*cmyn4**	0.919	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

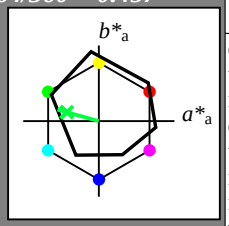
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623 (1.0)
*cmyn3**	0.5	0.0	0.377 (0.0)
*olvi4**	0.5	1.0	0.623 1.0
*cmyn4**	0.5	0.0	0.377 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123 (1.0)
*cmyn3**	1.0	0.5	0.877 (0.0)
*olvi4**	0.5	1.0	0.623 0.5
*cmyn4**	0.5	0.0	0.377 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246 (1.0)
*cmyn3**	1.0	0.0	0.754 (0.0)
*olvi4**	0.0	1.0	0.246 1.0
*cmyn4**	1.0	0.0	0.754 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

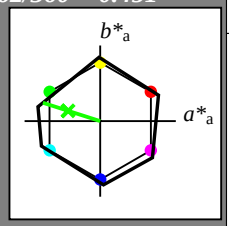
3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	−1.51	84.38	84.39	91
GMa	53.2	−82.27	18.98	84.44	167
G50BMa	53.2	−77.72	−32.98	84.44	203
BMa	53.2	4.37	−84.28	84.41	273
B50RMa	53.2	69.09	−48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

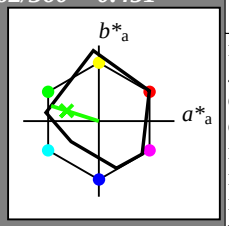
*n** = 1,0

Output: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 162/360 = 0.451
*lab*tch* and *lab*nch*

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L*=L*a	a*a	b*a	C*ab,a	h*ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

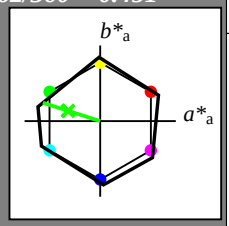
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

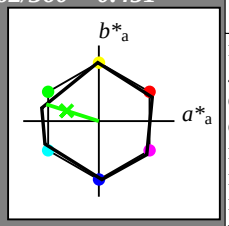
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

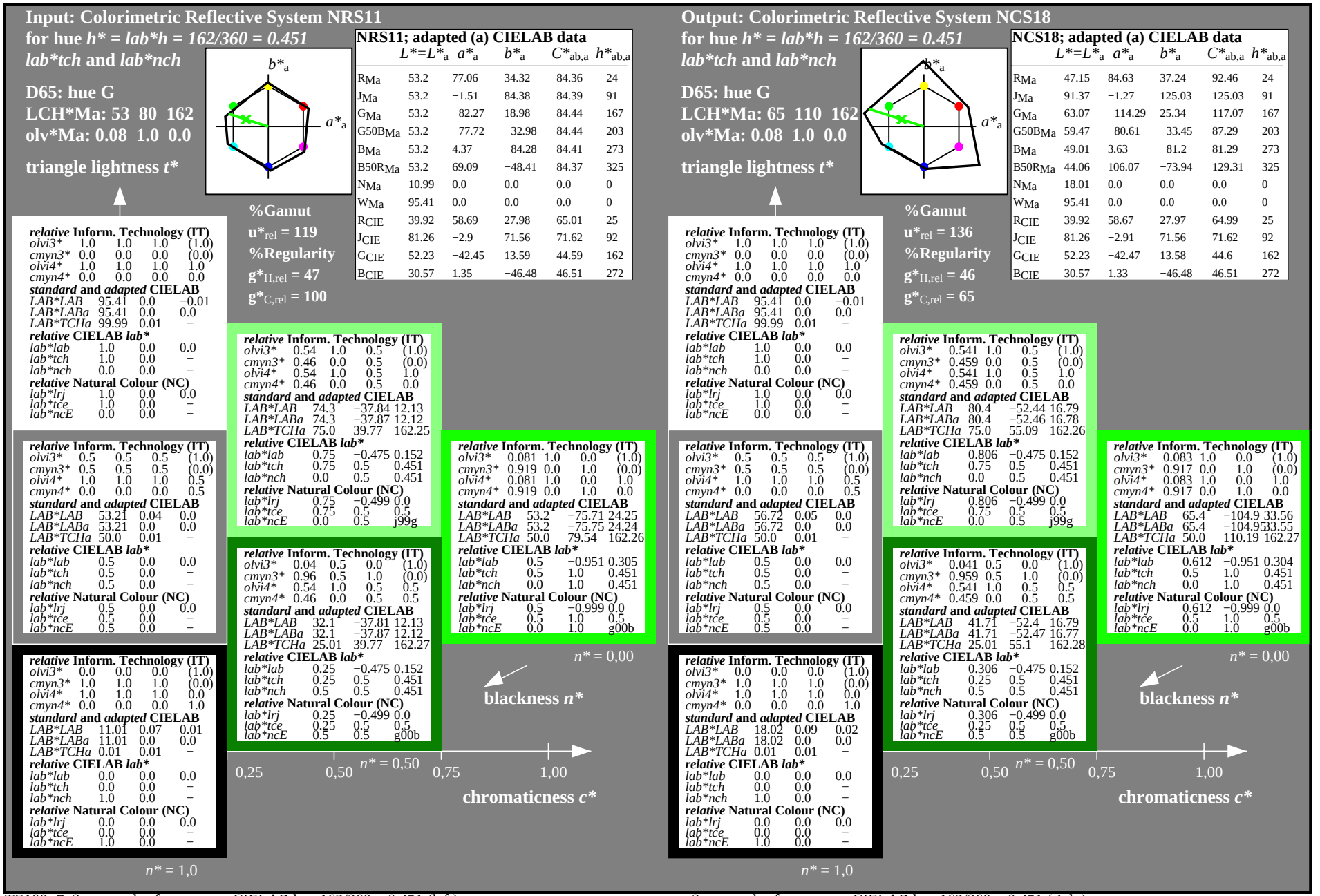
blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)



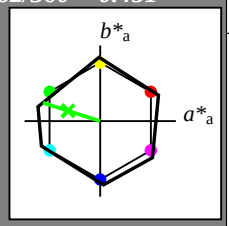
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

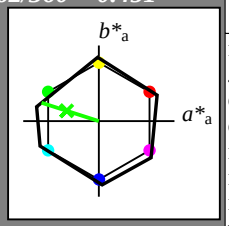
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

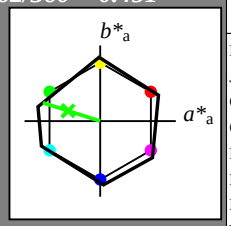
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

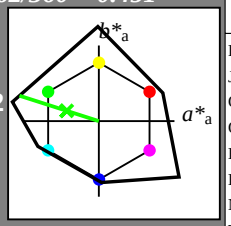
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

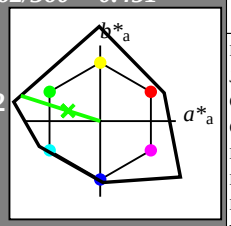
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5 (1.0)
*cmyn3**	0.459	0.0	0.5 (0.0)
*olvi4**	0.541	1.0	0.5 1.0
*cmyn4**	0.459	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0 (1.0)
*cmyn3**	0.959	0.5	1.0 (0.0)
*olvi4**	0.541	1.0	0.5 0.5
*cmyn4**	0.459	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0 (1.0)
*cmyn3**	0.917	0.0	1.0 (0.0)
*olvi4**	0.083	1.0	0.0 1.0
*cmyn4**	0.917	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

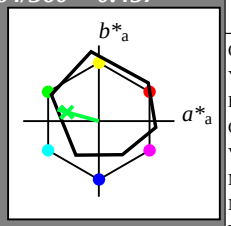
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623 (1.0)
*cmyn3**	0.5	0.0	0.377 (0.0)
*olvi4**	0.5	1.0	0.623 1.0
*cmyn4**	0.5	0.0	0.377 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123 (1.0)
*cmyn3**	1.0	0.5	0.877 (0.0)
*olvi4**	0.5	1.0	0.623 0.5
*cmyn4**	0.5	0.0	0.377 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246 (1.0)
*cmyn3**	1.0	0.0	0.754 (0.0)
*olvi4**	0.0	1.0	0.246 1.0
*cmyn4**	1.0	0.0	0.754 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

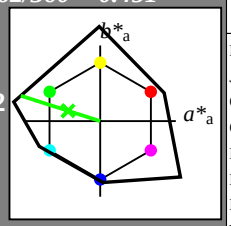
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

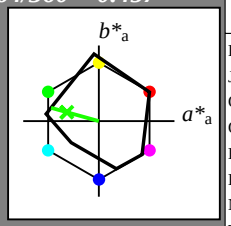
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 164
olv*Ma: 0.1 1.0 0.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.551	1.0	0.5	(1.0)
*cmyn3**	0.449	0.0	0.5	(0.0)
*olvi4**	0.551	1.0	0.5	1.0
*cmyn4**	0.449	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.74	−32.2	12.22
*LAB*LABa*	75.74	−31.6	8.79
*LAB*TCHa*	75.0	32.81	164.46

relative* CIELAB *lab*

*lab*lab*	0.746	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.746	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.051	0.5	0.0	(1.0)
*cmyn3**	0.949	0.5	1.0	(0.0)
*olvi4**	0.551	1.0	0.5	0.5
*cmyn4**	0.449	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.04	−31.47	9.6
*LAB*LABa*	37.04	−31.6	8.78
*LAB*TCHa*	25.01	32.81	164.47

relative* CIELAB *lab*

*lab*lab*	0.246	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.246	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.103	1.0	0.0	(1.0)
*cmyn3**	0.897	0.0	1.0	(0.0)
*olvi4**	0.103	1.0	0.0	1.0
*cmyn4**	0.897	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.07	−63.44	19.68
*LAB*LABa*	56.07	−63.21	17.58
*LAB*TCHa*	50.0	65.62	164.46

relative* CIELAB *lab*

*lab*lab*	0.492	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.492	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

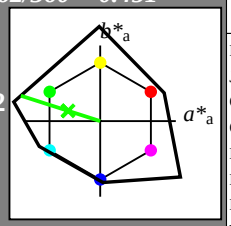
*n** = 1,0

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5 (1.0)
*cmyn3**	0.459	0.0	0.5 (0.0)
*olvi4**	0.541	1.0	0.5 1.0
*cmyn4**	0.459	0.0	0.5 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0 (1.0)
*cmyn3**	0.959	0.5	1.0 (0.0)
*olvi4**	0.541	1.0	0.5 0.5
*cmyn4**	0.459	0.0	0.5 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0 (1.0)
*cmyn3**	0.917	0.0	1.0 (0.0)
*olvi4**	0.083	1.0	0.0 1.0
*cmyn4**	0.917	0.0	1.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

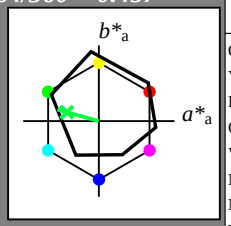
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 164/360 = 0.457**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 57 164
olv*Ma: 0.0 1.0 0.25

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0 (1.0)
*cmyn3**	0.0	0.0	0.0 (0.0)
*olvi4**	1.0	1.0	1.0 1.0
*cmyn4**	0.0	0.0	0.0 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5 (1.0)
*cmyn3**	0.5	0.5	0.5 (0.0)
*olvi4**	1.0	1.0	1.0 0.5
*cmyn4**	0.0	0.0	0.0 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0 (1.0)
*cmyn3**	1.0	1.0	1.0 (0.0)
*olvi4**	1.0	1.0	1.0 0.0
*cmyn4**	0.0	0.0	0.0 1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	1.0	0.623 (1.0)
*cmyn3**	0.5	0.0	0.377 (0.0)
*olvi4**	0.5	1.0	0.623 1.0
*cmyn4**	0.5	0.0	0.377 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.1	−27.96	10.94
*LAB*LABa*	74.1	−27.39	7.62
*LAB*TCHa*	75.0	28.44	164.46

relative* CIELAB *lab*

*lab*lab*	0.725	−0.481	0.134
*lab*tch*	0.75	0.5	0.457
*lab*nch*	0.0	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.725	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.5	0.123 (1.0)
*cmyn3**	1.0	0.5	0.877 (0.0)
*olvi4**	0.5	1.0	0.623 0.5
*cmyn4**	0.5	0.0	0.377 0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	35.41	−27.22	8.34
*LAB*LABa*	35.41	−27.39	7.63
*LAB*TCHa*	25.01	28.44	164.45

relative* CIELAB *lab*

*lab*lab*	0.225	−0.481	0.134
*lab*tch*	0.25	0.5	0.457
*lab*nch*	0.5	0.5	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.225	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.0	1.0	0.246 (1.0)
*cmyn3**	1.0	0.0	0.754 (0.0)
*olvi4**	0.0	1.0	0.246 1.0
*cmyn4**	1.0	0.0	0.754 0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	52.8	−54.95	17.13
*LAB*LABa*	52.8	−54.79	15.24
*LAB*TCHa*	50.0	56.88	164.45

relative* CIELAB *lab*

*lab*lab*	0.45	−0.962	0.268
*lab*tch*	0.5	1.0	0.457
*lab*nch*	0.0	1.0	0.457

***relative* Natural Colour (NC)**

*lab*lrj*	0.45	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	j99g

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

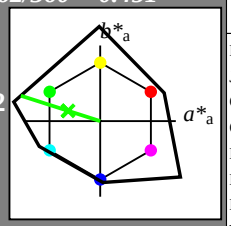
TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

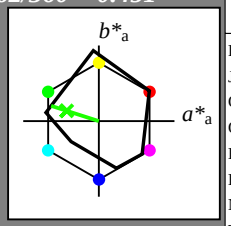
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 56 66 162
olv*Ma: 0.11 1.0 0.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.554	1.0	0.5	(1.0)
*cmyn3**	0.446	0.0	0.5	(0.0)
*olvi4**	0.555	1.0	0.5	1.0
*cmyn4**	0.445	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	75.86	−31.51	10.1
*LAB*LABa*	75.86	−31.54	10.09
*LAB*TCHa*	75.0	33.13	162.26

relative* CIELAB *lab*

*lab*lab*	0.747	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.747	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.054	0.5	0.0	(1.0)
*cmyn3**	0.946	0.5	1.0	(0.0)
*olvi4**	0.554	1.0	0.5	0.5
*cmyn4**	0.446	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.16	−31.47	10.11
*LAB*LABa*	37.16	−31.55	10.08
*LAB*TCHa*	25.01	33.13	162.28

relative* CIELAB *lab*

*lab*lab*	0.247	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.247	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.109	1.0	0.0	(1.0)
*cmyn3**	0.891	0.0	1.0	(0.0)
*olvi4**	0.109	1.0	0.0	1.0
*cmyn4**	0.891	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.31	−63.05	20.19
*LAB*LABa*	56.31	−63.1	20.18
*LAB*TCHa*	50.0	66.26	162.27

relative* CIELAB *lab*

*lab*lab*	0.495	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.495	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

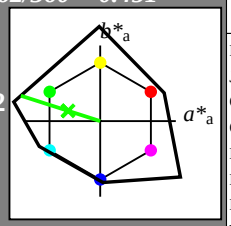
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

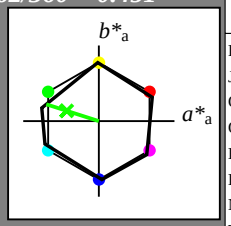
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 57 73 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	−34.7	11.12
*LAB*LABa*	76.05	−34.73	11.11
*LAB*TCHa*	75.0	36.48	162.26

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	−34.67	11.13
*LAB*LABa*	37.36	−34.74	11.11
*LAB*TCHa*	25.01	36.48	162.28

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	−69.43	22.23
*LAB*LABa*	56.7	−69.49	22.22
*LAB*TCHa*	50.0	72.96	162.27

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

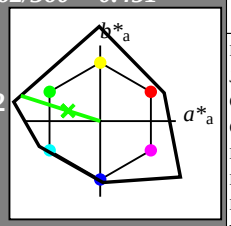
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

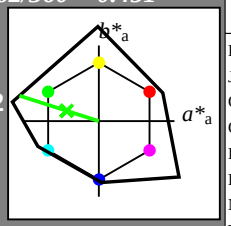
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.44	16.79
*LAB*LABa*	80.4	−52.46	16.78
*LAB*TCHa*	75.0	55.09	162.26

relative* CIELAB *lab*

*lab*lab*	0.806	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.806	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.71	−52.4	16.79
*LAB*LABa*	41.71	−52.47	16.77
*LAB*TCHa*	25.01	55.1	162.28

relative* CIELAB *lab*

*lab*lab*	0.306	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.306	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.4	−104.9	33.56
*LAB*LABa*	65.4	−104.95	33.55
*LAB*TCHa*	50.0	110.19	162.27

relative* CIELAB *lab*

*lab*lab*	0.612	−0.951	0.304
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.612	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

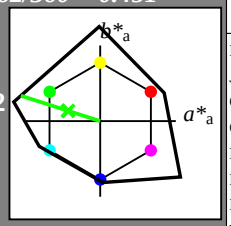
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

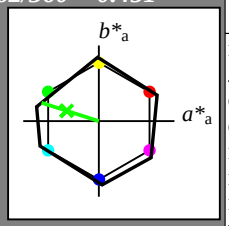
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 53 80 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.54	1.0	0.5	(1.0)
*cmyn3**	0.46	0.0	0.5	(0.0)
*olvi4**	0.54	1.0	0.5	1.0
*cmyn4**	0.46	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	−37.84	12.13
*LAB*LABa*	74.3	−37.87	12.12
*LAB*TCHa*	75.0	39.77	162.25

relative* CIELAB *lab*

*lab*lab*	0.75	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.04	0.5	0.0	(1.0)
*cmyn3**	0.96	0.5	1.0	(0.0)
*olvi4**	0.54	1.0	0.5	0.5
*cmyn4**	0.46	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	−37.81	12.13
*LAB*LABa*	32.1	−37.87	12.12
*LAB*TCHa*	25.01	39.77	162.27

relative* CIELAB *lab*

*lab*lab*	0.25	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.081	1.0	0.0	(1.0)
*cmyn3**	0.919	0.0	1.0	(0.0)
*olvi4**	0.081	1.0	0.0	1.0
*cmyn4**	0.919	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	−75.71	24.25
*LAB*LABa*	53.2	−75.75	24.24
*LAB*TCHa*	50.0	79.54	162.26

relative* CIELAB *lab*

*lab*lab*	0.5	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

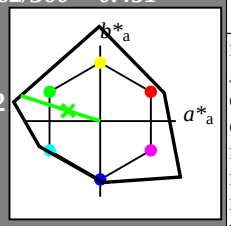
*n** = 1,0

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

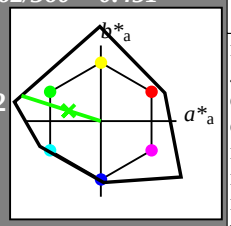
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 162/360 = 0.451**
lab*tch* and *lab*nch

D65: hue G
LCH*Ma: 65 110 162
olv*Ma: 0.08 1.0 0.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.541	1.0	0.5	(1.0)
*cmyn3**	0.459	0.0	0.5	(0.0)
*olvi4**	0.541	1.0	0.5	1.0
*cmyn4**	0.459	0.0	0.5	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	80.4	−52.43	16.79
*LAB*LABa*	80.4	−52.45	16.79
*LAB*TCHa*	75.0	55.08	162.25

relative* CIELAB *lab*

*lab*lab*	0.822	−0.475	0.152
*lab*tch*	0.75	0.5	0.451
*lab*nch*	0.0	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.822	−0.499	0.0
*lab*tce*	0.75	0.5	0.5
*lab*ncE*	0.0	0.5	j99g

***relative* Inform. Technology (IT)**

*olvi3**	0.041	0.5	0.0	(1.0)
*cmyn3**	0.959	0.5	1.0	(0.0)
*olvi4**	0.541	1.0	0.5	0.5
*cmyn4**	0.459	0.0	0.5	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	38.2	−52.41	16.8
*LAB*LABa*	38.2	−52.46	16.78
*LAB*TCHa*	25.01	55.09	162.27

relative* CIELAB *lab*

*lab*lab*	0.322	−0.475	0.152
*lab*tch*	0.25	0.5	0.451
*lab*nch*	0.5	0.5	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.322	−0.499	0.0
*lab*tce*	0.25	0.5	0.5
*lab*ncE*	0.5	0.5	g00b

***relative* Inform. Technology (IT)**

*olvi3**	0.083	1.0	0.0	(1.0)
*cmyn3**	0.917	0.0	1.0	(0.0)
*olvi4**	0.083	1.0	0.0	1.0
*cmyn4**	0.917	0.0	1.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	65.41	−104.89	33.58
*LAB*LABa*	65.41	−104.92	33.57
*LAB*TCHa*	50.0	110.17	162.26

relative* CIELAB *lab*

*lab*lab*	0.645	−0.951	0.305
*lab*tch*	0.5	1.0	0.451
*lab*nch*	0.0	1.0	0.451

***relative* Natural Colour (NC)**

*lab*lrj*	0.645	−0.999	0.0
*lab*tce*	0.5	1.0	0.5
*lab*ncE*	0.0	1.0	g00b

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

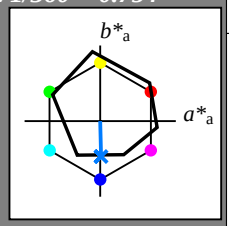
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

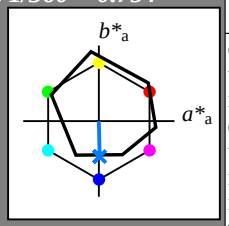
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
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***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
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*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

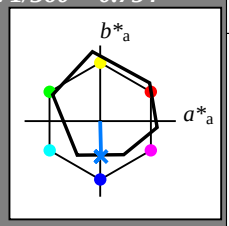
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

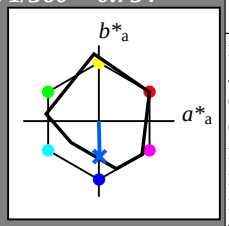
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

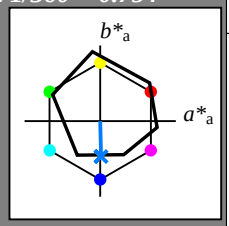
chromaticness *c**

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

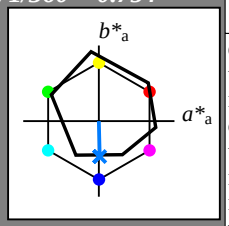
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
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relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

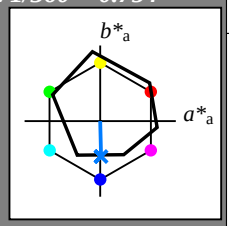
chromaticness *c**

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

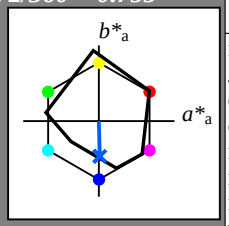
*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00
blackness *n**
0,25 0,50 *n** = 0,50 0,75 1,00
chromaticness *c**
*n** = 1,0

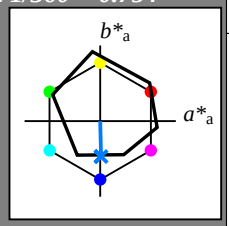
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	−10.27	91.77	92.34	96
LMa	50.9	−62.79	34.95	71.87	151
CMa	58.62	−30.35	−45.01	54.3	236
VMa	25.71	31.11	−44.42	54.24	305
MMa	48.13	75.27	−8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

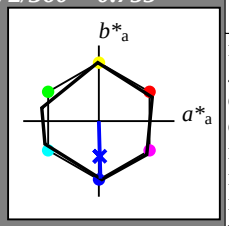
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

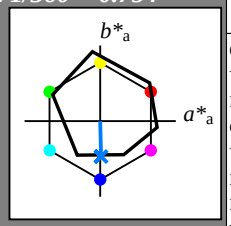
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

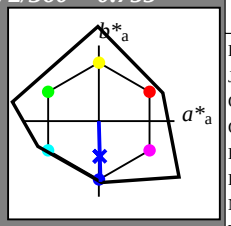
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

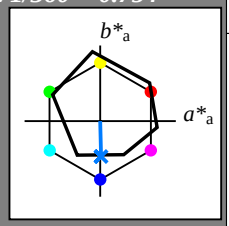
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

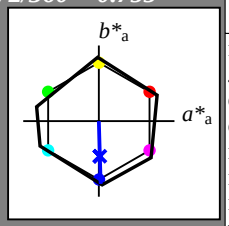
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

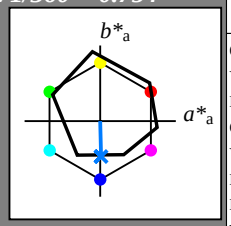
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

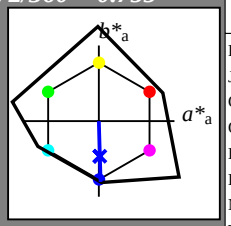
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

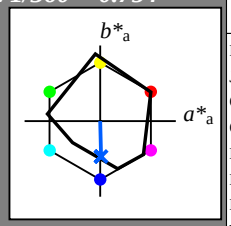
chromaticness *c**

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

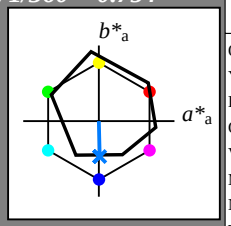
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

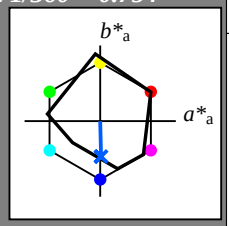
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

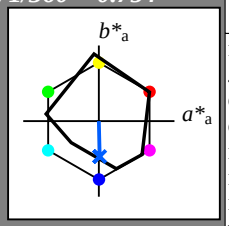
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

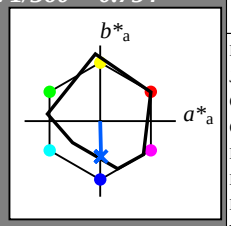
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

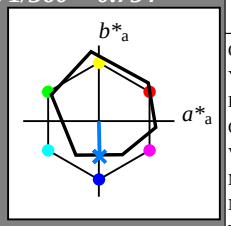
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

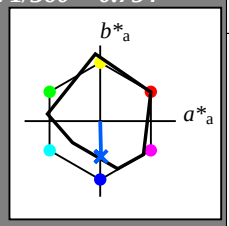
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

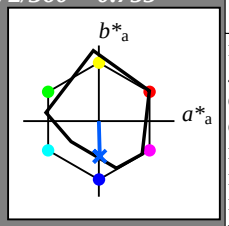
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

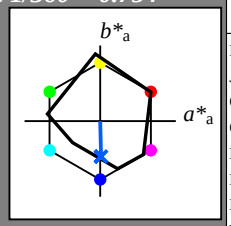
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

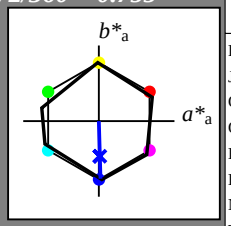
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

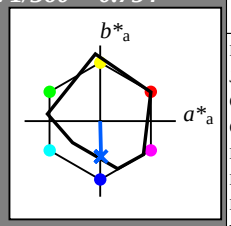
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

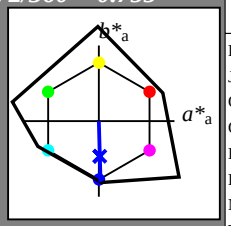
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

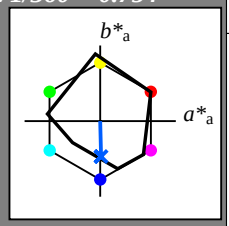
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

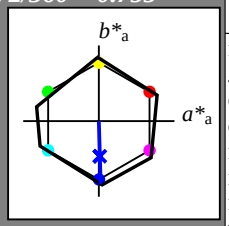
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

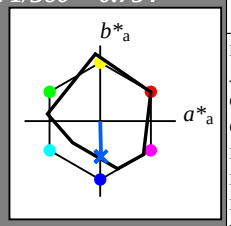
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

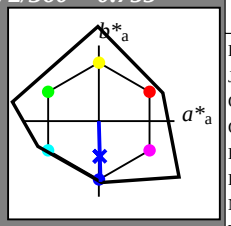
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.28	25.35	117.06	167
G50BMa	59.47	−80.6	−33.45	87.28	203
BMa	49.01	3.65	−81.19	81.28	273
B50RMa	44.06	106.09	−73.93	129.32	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	−2.9	71.56	71.62	92
GCIE	52.23	−42.45	13.59	44.59	162
BCIE	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

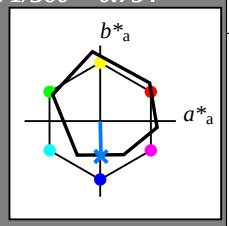
chromaticness *c**

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

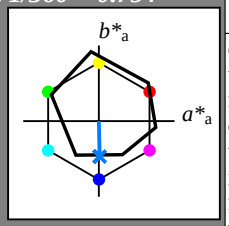
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

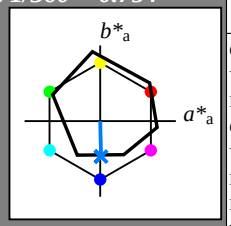
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u*$_{rel}$ = 93
%Regularity
g*$_{H,rel}$ = 57
g*$_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

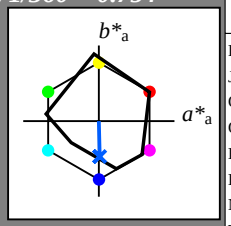
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u*$_{rel}$ = 91
%Regularity
g*$_{H,rel}$ = 41
g*$_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

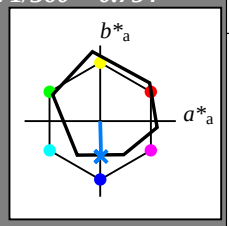
*n** = 1,0

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

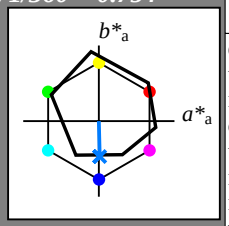
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

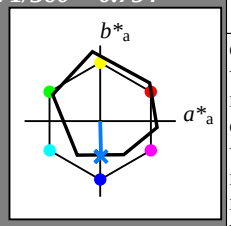
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

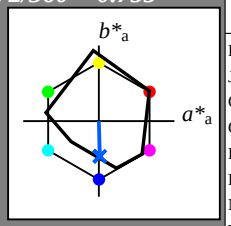
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness n^*

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness c^*

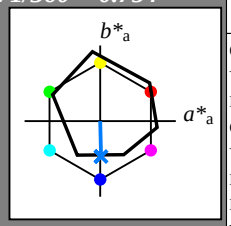
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

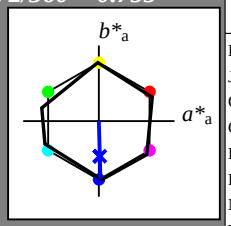
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

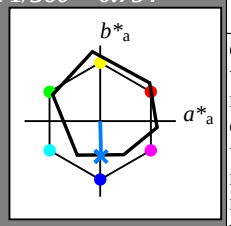
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

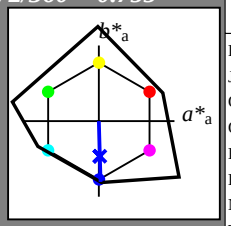
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

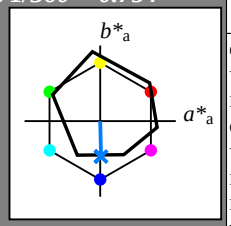
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

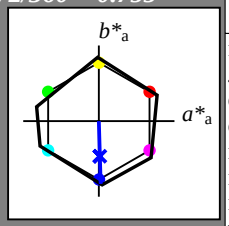
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

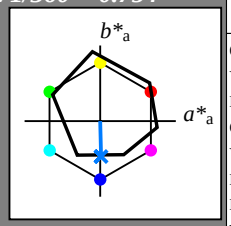
TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

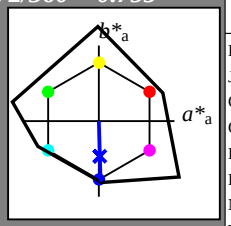
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 271/360 = 0.754 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

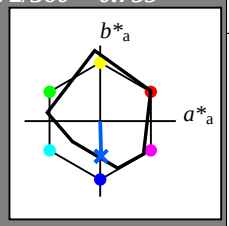
chromaticness *c**

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

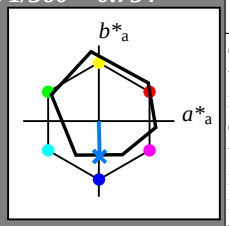
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

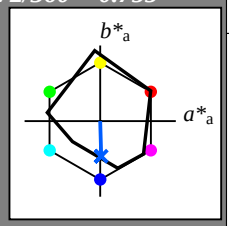
chromaticness *c**

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

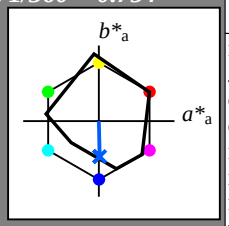
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System MRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

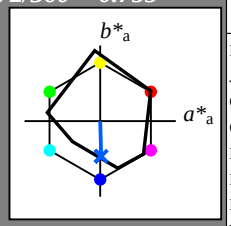
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

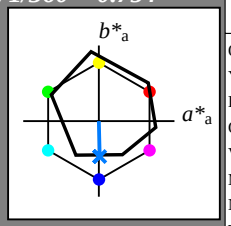
chromaticness c^*

Output: Colorimetric Reflective System TRS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

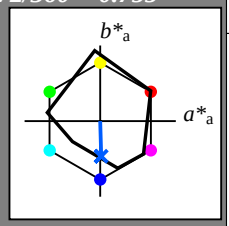
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

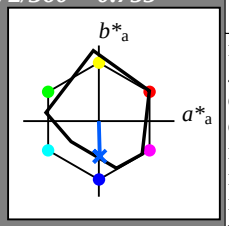
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
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relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

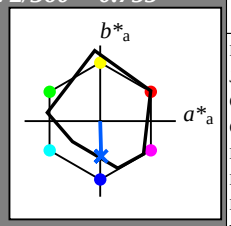
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

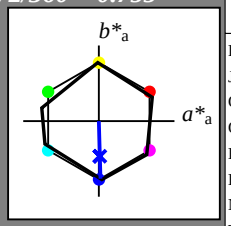
*n** = 1,0

Output: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

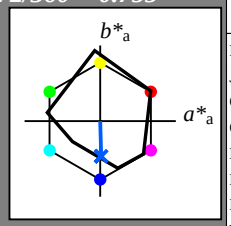
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

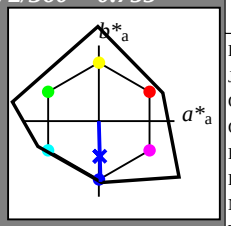
chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

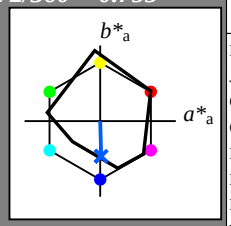
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18a

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

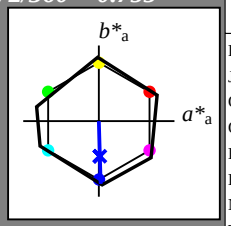
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

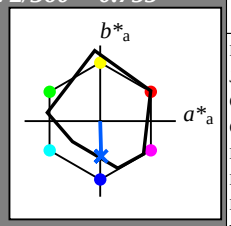
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

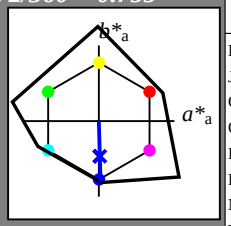
n^* = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

n^* = 1,0

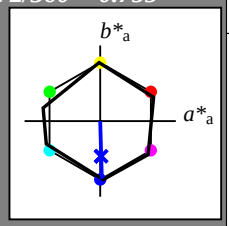
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS18

for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

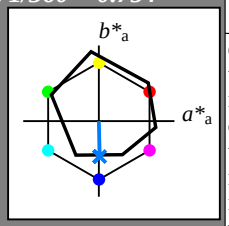
chromaticness *c**

Output: Colorimetric Reflective System ORS18

for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

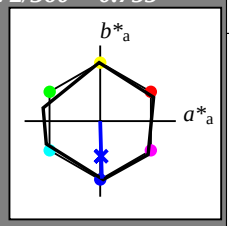
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NRS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

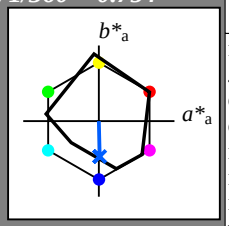
chromaticness c^*

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

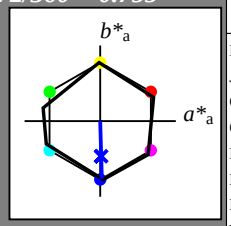
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

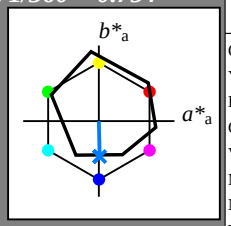
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

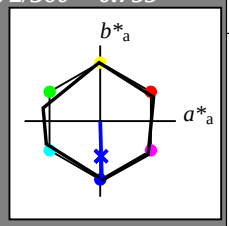
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	56.7	70.66	31.47	77.35	24
JMa	56.7	−1.39	77.37	77.39	91
GMa	56.7	−75.46	17.4	77.45	167
G50BMa	56.7	−71.29	−30.25	77.45	203
BMa	56.7	4.0	−77.3	77.41	273
B50RMa	56.7	63.35	−44.4	77.36	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 100
%Regularity
g*H,rel = 47
g*C,rel = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

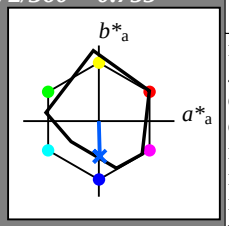
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	−7.27	93.19	93.48	94
GMa	52.11	−69.93	11.26	70.85	171
G50BMa	45.03	−36.65	−27.13	45.61	217
BMa	36.65	23.26	−62.27	66.49	290
B50RMa	34.94	57.27	−43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u*rel = 92
%Regularity
g*H,rel = 42
g*C,rel = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

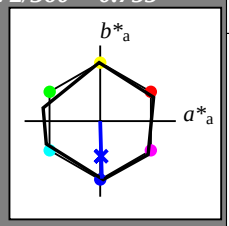
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

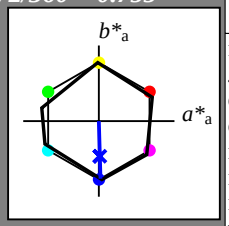
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
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*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

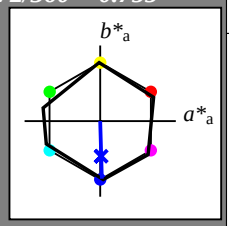
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

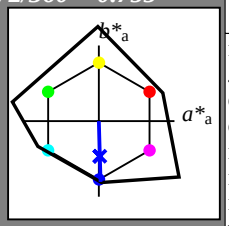
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

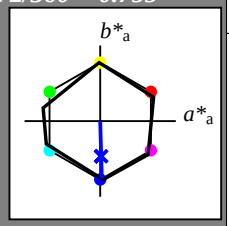
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

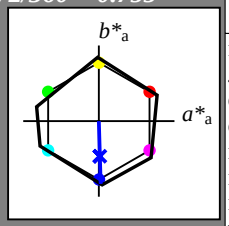
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

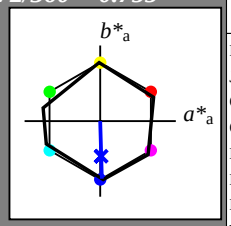
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

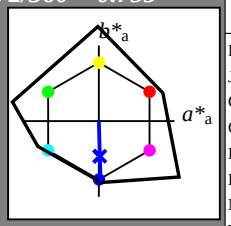
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

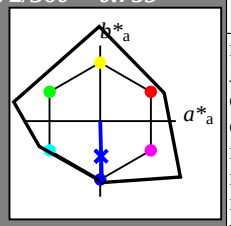
3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS18

for hue $h^* = lab^*h = 272/360 = 0.755$
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

***relative* CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

***relative* CIELAB *lab**

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

***relative* CIELAB *lab**

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

***relative* CIELAB *lab**

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

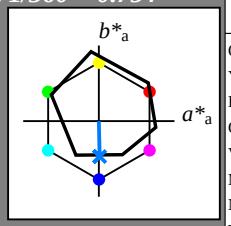
*n** = 1,0

Output: Colorimetric Reflective System ORS18

for hue $h^* = lab^*h = 271/360 = 0.754$
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

***relative* CIELAB *lab**

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

***relative* CIELAB *lab**

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

***relative* CIELAB *lab**

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

***relative* CIELAB *lab**

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

***relative* CIELAB *lab**

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

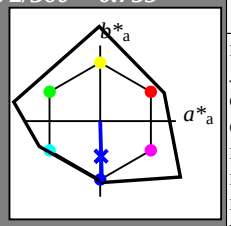
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NCS18

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	47.15	84.63	37.24	92.46	24
JMa	91.37	−1.27	125.03	125.03	91
GMa	63.07	−114.29	25.34	117.07	167
G50BMa	59.47	−80.61	−33.45	87.29	203
BMa	49.01	3.63	−81.2	81.29	273
B50RMa	44.06	106.07	−73.94	129.31	325
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	−2.91	71.56	71.62	92
GCIE	52.23	−42.47	13.58	44.6	162
BCIE	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

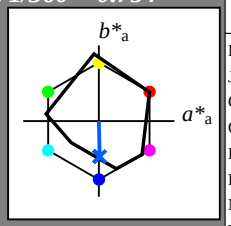
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	*L**=*L**a	*a**a	*b**a	*C**ab,a	*h**ab,a
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	−6.36	88.75	88.98	94
GMa	52.11	−69.73	9.44	70.37	172
G50BMa	45.03	−36.57	−28.47	46.36	218
BMa	36.65	23.19	−63.05	67.18	290
B50RMa	34.94	57.17	−44.26	72.31	322
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
JCIE	81.26	−2.17	67.76	67.79	92
GCIE	52.23	−42.26	11.75	43.87	164
BCIE	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

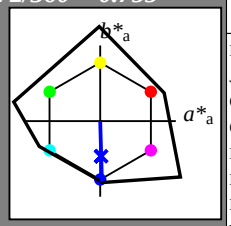
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

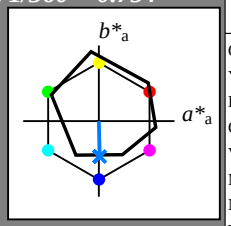
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

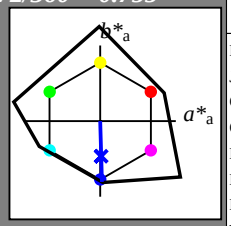
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

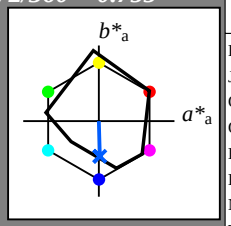
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

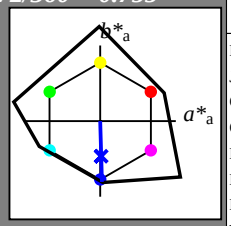
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

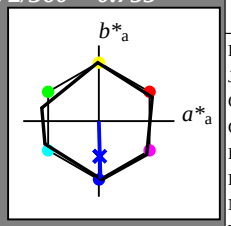
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

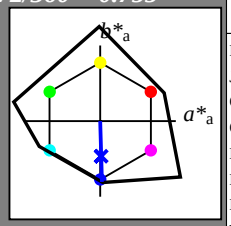
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

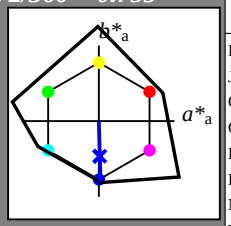
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

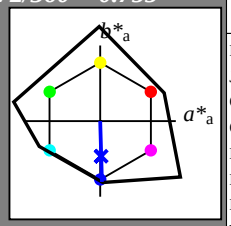
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

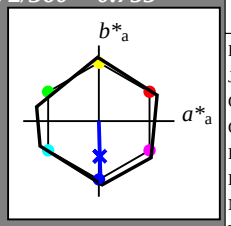
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

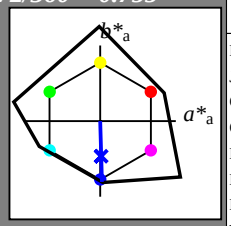
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

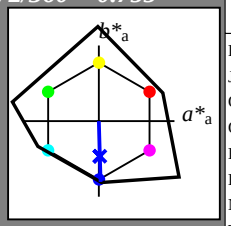
$n^* = 1{,}0$

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

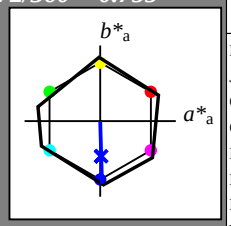
$n^* = 1{,}0$

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

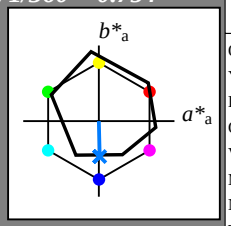
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

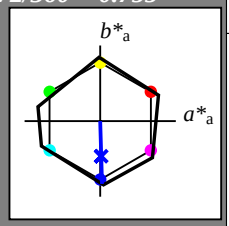
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NRS11

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

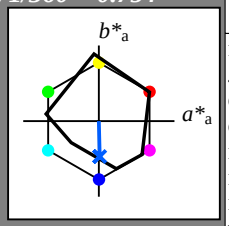
chromaticness c^*

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

n^* = 1,0

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

n^* = 0,00

blackness n^*

0,25 0,50 n^* = 0,50 0,75 1,00

chromaticness c^*

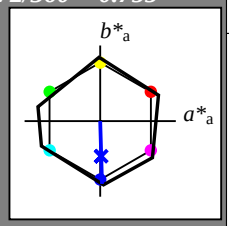
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

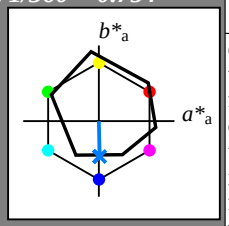
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

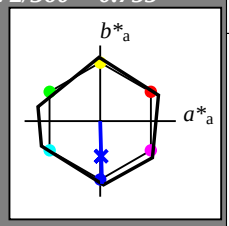
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

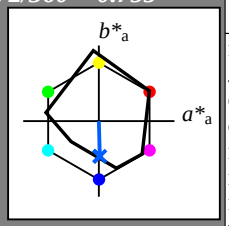
0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	L=L*a*	*a*a*	*b*a*	*C*ab,a*	*h*ab,a*
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***n** = 1,0**

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

***n** = 0,00**

blackness *n**

0,25 0,50 ***n** = 0,50* 0,75 1,00

chromaticness *c**

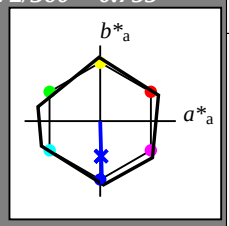
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

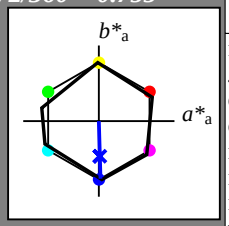
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

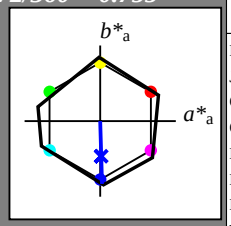
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	95.41	0.0	−0.01	
*LAB*LABa*	95.41	0.0	0.0	
*LAB*TCHa*	99.99	0.01	–	
relative* CIELAB *lab				
*lab*lab*	1.0	0.0	0.0	
*lab*tch*	1.0	0.0	–	
*lab*nch*	0.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	1.0	0.0	0.0	
*lab*tce*	1.0	0.0	–	
*lab*ncE*	0.0	0.0	–	

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	53.21	0.04	0.0	
*LAB*LABa*	53.21	0.0	0.0	
*LAB*TCHa*	50.0	0.01	–	
relative* CIELAB *lab				
*lab*lab*	0.5	0.0	0.0	
*lab*tch*	0.5	0.0	–	
*lab*nch*	0.5	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.5	0.0	0.0	
*lab*tce*	0.5	0.0	–	
*lab*ncE*	0.5	0.0	–	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	11.01	0.07	0.01	
*LAB*LABa*	11.01	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	74.3	1.23	−41.51	
*LAB*LABa*	74.3	1.2	−41.52	
*LAB*TCHa*	75.0	41.54	271.66	
relative* CIELAB *lab				
*lab*lab*	0.75	0.014	−0.499	
*lab*tch*	0.75	0.5	0.755	
*lab*nch*	0.0	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.75	0.0	−0.499	
*lab*tce*	0.75	0.5	0.75	
*lab*ncE*	0.0	0.5	g99b	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	32.1	1.27	−41.5	
*LAB*LABa*	32.1	1.21	−41.52	
*LAB*TCHa*	25.01	41.55	271.67	
relative* CIELAB *lab				
*lab*lab*	0.25	0.015	−0.499	
*lab*tch*	0.25	0.5	0.755	
*lab*nch*	0.5	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.25	0.0	−0.499	
*lab*tce*	0.25	0.5	0.75	
*lab*ncE*	0.5	0.5	b00r	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	53.2	2.46	−83.04	
*LAB*LABa*	53.2	2.42	−83.05	
*LAB*TCHa*	50.0	83.09	271.67	
relative* CIELAB *lab				
*lab*lab*	0.5	0.029	−0.998	
*lab*tch*	0.5	1.0	0.755	
*lab*nch*	0.0	1.0	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.5	0.0	−0.999	
*lab*tce*	0.5	1.0	0.75	
*lab*ncE*	0.0	1.0	b00r	

$n^* = 0{,}00$

blackness *n**

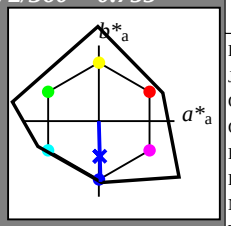
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**				
*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	95.41	0.0	−0.01	
*LAB*LABa*	95.41	0.0	0.0	
*LAB*TCHa*	99.99	0.01	–	
relative* CIELAB *lab				
*lab*lab*	1.0	0.0	0.0	
*lab*tch*	1.0	0.0	–	
*lab*nch*	0.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	1.0	0.0	0.0	
*lab*tce*	1.0	0.0	–	
*lab*ncE*	0.0	0.0	–	

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	56.72	0.05	0.0	
*LAB*LABa*	56.72	0.0	0.0	
*LAB*TCHa*	50.0	0.01	–	
relative* CIELAB *lab				
*lab*lab*	0.5	0.0	0.0	
*lab*tch*	0.5	0.0	–	
*lab*nch*	0.5	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.5	0.0	0.0	
*lab*tce*	0.5	0.0	–	
*lab*ncE*	0.5	0.0	–	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	18.02	0.09	0.02	
*LAB*LABa*	18.02	0.0	0.0	
*LAB*TCHa*	0.01	0.01	–	
relative* CIELAB *lab				
*lab*lab*	0.0	0.0	0.0	
*lab*tch*	0.0	0.0	–	
*lab*nch*	1.0	0.0	–	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.0	0.0	0.0	
*lab*tce*	0.0	0.0	–	
*lab*ncE*	1.0	0.0	–	

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**				
*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	72.29	1.18	−40.2	
*LAB*LABa*	72.29	1.15	−40.21	
*LAB*TCHa*	75.0	40.23	271.64	
relative* CIELAB *lab				
*lab*lab*	0.701	0.014	−0.499	
*lab*tch*	0.75	0.5	0.755	
*lab*nch*	0.0	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.701	0.0	−0.499	
*lab*tce*	0.75	0.5	0.75	
*lab*ncE*	0.0	0.5	g99b	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5
***standard* and *adapted* CIELAB**				
*LAB*LAB*	33.6	1.24	−40.19	
*LAB*LABa*	33.6	1.16	−40.21	
*LAB*TCHa*	25.01	40.24	271.65	
relative* CIELAB *lab				
*lab*lab*	0.201	0.014	−0.499	
*lab*tch*	0.25	0.5	0.755	
*lab*nch*	0.5	0.5	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.201	0.0	−0.499	
*lab*tce*	0.25	0.5	0.75	
*lab*ncE*	0.5	0.5	b00r	

***relative* Inform. Technology (IT)**				
*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0
***standard* and *adapted* CIELAB**				
*LAB*LAB*	49.18	2.37	−80.41	
*LAB*LABa*	49.18	2.3	−80.43	
*LAB*TCHa*	50.0	80.47	271.64	
relative* CIELAB *lab				
*lab*lab*	0.403	0.029	−0.998	
*lab*tch*	0.5	1.0	0.755	
*lab*nch*	0.0	1.0	0.755	
***relative* Natural Colour (NC)**				
*lab*lrj*	0.403	0.0	−0.999	
*lab*tce*	0.5	1.0	0.75	
*lab*ncE*	0.0	1.0	b00r	

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

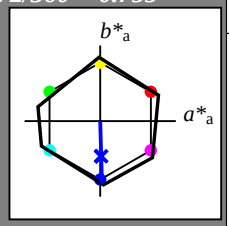
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

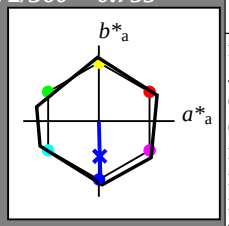
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

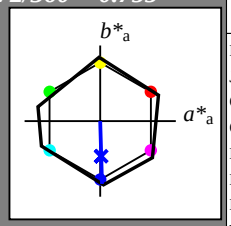
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

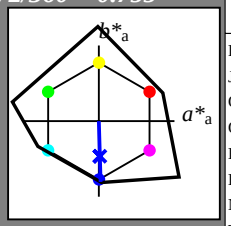
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

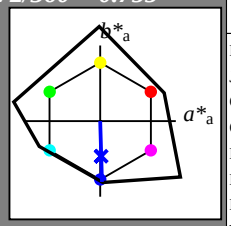
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

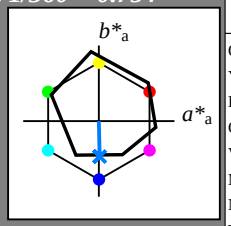
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System ORS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

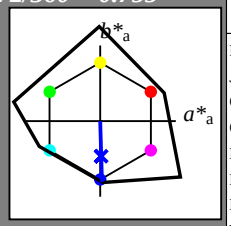
3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NCS11

for hue *h** = *lab*h* = 272/360 = 0.755
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

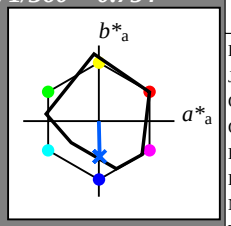
*n** = 1,0

Output: Colorimetric Reflective System MRS18

for hue *h** = *lab*h* = 271/360 = 0.754
*lab*tch* and *lab*nch*

D65: hue B
LCH*Ma: 40 50 271
olv*Ma: 0.0 0.37 1.0

triangle lightness *t**



MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.96	38.37	77.18	30
J_{Ma}	90.7	−6.36	88.75	88.98	94
G_{Ma}	52.11	−69.73	9.44	70.37	172
$G50B_{Ma}$	45.03	−36.57	−28.47	46.36	218
B_{Ma}	36.65	23.19	−63.05	67.18	290
$B50R_{Ma}$	34.94	57.17	−44.26	72.31	322
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 91
%Regularity
$g^*_{H,rel}$ = 41
$g^*_{C,rel}$ = 52

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.684	1.0	(1.0)
*cmyn3**	0.5	0.316	0.0	(0.0)
*olvi4**	0.5	0.684	1.0	1.0
*cmyn4**	0.5	0.316	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.57	0.17	−22.28
*LAB*LABa*	67.57	0.61	−25.16
*LAB*TCHa*	75.0	25.18	271.4

relative* CIELAB *lab*

*lab*lab*	0.64	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.184	0.5	(1.0)
*cmyn3**	1.0	0.816	0.5	(0.0)
*olvi4**	0.5	0.684	1.0	0.5
*cmyn4**	0.5	0.316	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.87	0.92	−24.9
*LAB*LABa*	28.87	0.62	−25.16
*LAB*TCHa*	25.01	25.18	271.41

relative* CIELAB *lab*

*lab*lab*	0.14	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.367	1.0	(1.0)
*cmyn3**	1.0	0.633	0.0	(0.0)
*olvi4**	0.0	0.367	1.0	1.0
*cmyn4**	1.0	0.633	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.73	1.32	−49.33
*LAB*LABa*	39.73	1.23	−50.34
*LAB*TCHa*	50.0	50.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.281	0.025	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.281	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

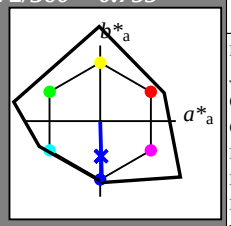
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

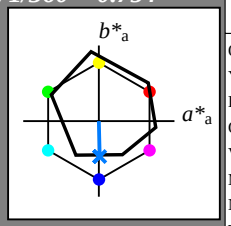
0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

Output: Colorimetric Reflective System TRS18
for hue *h = *lab*h* = 271/360 = 0.754**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 42 45 271
olv*Ma: 0.0 0.49 1.0

triangle lightness *t**



TRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O_{Ma}	47.94	65.37	50.52	82.62	38
Y_{Ma}	90.37	−10.27	91.77	92.34	96
L_{Ma}	50.9	−62.79	34.95	71.87	151
C_{Ma}	58.62	−30.35	−45.01	54.3	236
V_{Ma}	25.71	31.11	−44.42	54.24	305
M_{Ma}	48.13	75.27	−8.35	75.73	354
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.66	26.98	64.56	25
J_{CIE}	81.26	−2.17	67.76	67.79	92
G_{CIE}	52.23	−42.26	11.75	43.87	164
B_{CIE}	30.57	1.15	−46.84	46.87	271

%Gamut
u^*_{rel} = 93
%Regularity
$g^*_{H,rel}$ = 57
$g^*_{C,rel}$ = 59

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	−0.97	4.75
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	−0.23	2.14
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.5	−0.46
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

$n^* = 1{,}0$

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.744	1.0	(1.0)
*cmyn3**	0.5	0.256	0.0	(0.0)
*olvi4**	0.5	0.744	1.0	1.0
*cmyn4**	0.5	0.256	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	68.59	0.08	−19.4
*LAB*LABa*	68.59	0.54	−22.35
*LAB*TCHa*	75.0	22.36	271.4

relative* CIELAB *lab*

*lab*lab*	0.654	0.012	−0.499
*lab*tch*	0.75	0.5	0.754
*lab*nch*	0.0	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.654	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.244	0.5	(1.0)
*cmyn3**	1.0	0.756	0.5	(0.0)
*olvi4**	0.5	0.744	1.0	0.5
*cmyn4**	0.5	0.256	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	29.9	0.83	−22.01
*LAB*LABa*	29.9	0.55	−22.35
*LAB*TCHa*	25.01	22.36	271.41

relative* CIELAB *lab*

*lab*lab*	0.154	0.012	−0.499
*lab*tch*	0.25	0.5	0.754
*lab*nch*	0.5	0.5	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.154	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.488	1.0	(1.0)
*cmyn3**	1.0	0.512	0.0	(0.0)
*olvi4**	0.0	0.488	1.0	1.0
*cmyn4**	1.0	0.512	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	41.79	1.14	−43.56
*LAB*LABa*	41.79	1.1	−44.7
*LAB*TCHa*	50.0	44.73	271.4

relative* CIELAB *lab*

*lab*lab*	0.307	0.024	−0.998
*lab*tch*	0.5	1.0	0.754
*lab*nch*	0.0	1.0	0.754

***relative* Natural Colour (NC)**

*lab*lrj*	0.307	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

$n^* = 0{,}00$

blackness *n**

0,25 0,50 $n^* = 0{,}50$ 0,75 1,00

chromaticness *c**

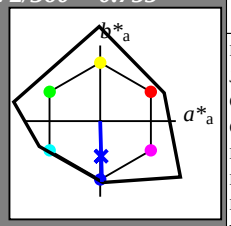
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

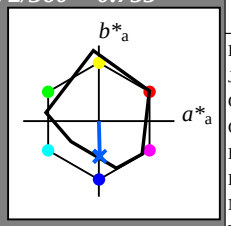
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System MRS18a
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 40 49 272
olv*Ma: 0.0 0.36 1.0

triangle lightness *t**



MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	49.63	66.8	40.02	77.87	31
J_{Ma}	90.7	−7.27	93.19	93.48	94
G_{Ma}	52.11	−69.93	11.26	70.85	171
$G50B_{Ma}$	45.03	−36.65	−27.13	45.61	217
B_{Ma}	36.65	23.26	−62.27	66.49	290
$B50R_{Ma}$	34.94	57.27	−43.6	71.99	323
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 92
%Regularity
$g^*_{H,rel}$ = 42
$g^*_{C,rel}$ = 49

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.01	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.71	0.05	0.0
*LAB*LABa*	56.71	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.1	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.682	1.0	(1.0)
*cmyn3**	0.5	0.318	0.0	(0.0)
*olvi4**	0.5	0.682	1.0	1.0
*cmyn4**	0.5	0.318	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	67.55	0.74	−24.71
*LAB*LABa*	67.55	0.7	−24.72
*LAB*TCHa*	75.0	24.74	271.63

relative* CIELAB *lab*

*lab*lab*	0.64	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.64	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.182	0.5	(1.0)
*cmyn3**	1.0	0.818	0.5	(0.0)
*olvi4**	0.5	0.682	1.0	0.5
*cmyn4**	0.5	0.318	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	28.86	0.79	−24.7
*LAB*LABa*	28.86	0.71	−24.72
*LAB*TCHa*	25.01	24.74	271.64

relative* CIELAB *lab*

*lab*lab*	0.14	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.14	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.365	1.0	(1.0)
*cmyn3**	1.0	0.635	0.0	(0.0)
*olvi4**	0.0	0.365	1.0	1.0
*cmyn4**	1.0	0.635	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	39.71	1.49	−49.43
*LAB*LABa*	39.71	1.41	−49.45
*LAB*TCHa*	50.0	49.48	271.64

relative* CIELAB *lab*

*lab*lab*	0.28	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.28	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

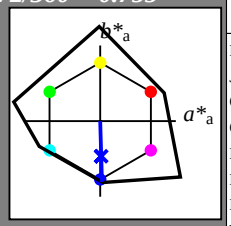
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

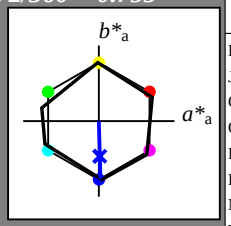
chromaticness *c**

*n** = 1,0

Output: Colorimetric Reflective System NRS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 57 76 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	56.7	70.66	31.47	77.35	24
J_{Ma}	56.7	−1.39	77.37	77.39	91
G_{Ma}	56.7	−75.46	17.4	77.45	167
$G50B_{Ma}$	56.7	−71.29	−30.25	77.45	203
B_{Ma}	56.7	4.0	−77.3	77.41	273
$B50R_{Ma}$	56.7	63.35	−44.4	77.36	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 100
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	0.0
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	76.05	1.12	−38.06
*LAB*LABa*	76.05	1.09	−38.07
*LAB*TCHa*	75.0	38.09	271.64

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	37.36	1.17	−38.05
*LAB*LABa*	37.36	1.09	−38.07
*LAB*TCHa*	25.01	38.1	271.65

relative* CIELAB *lab*

*lab*lab*	0.25	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.7	2.23	−76.13
*LAB*LABa*	56.7	2.18	−76.15
*LAB*TCHa*	50.0	76.19	271.64

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

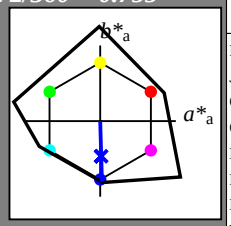
TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

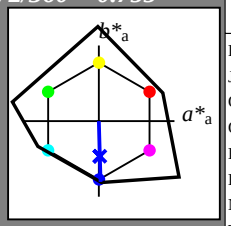
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS18
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.63	37.24	92.46	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.29	25.34	117.07	167
$G50B_{Ma}$	59.47	−80.61	−33.45	87.29	203
B_{Ma}	49.01	3.63	−81.2	81.29	273
$B50R_{Ma}$	44.06	106.07	−73.94	129.31	325
N_{Ma}	18.01	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.67	27.97	64.99	25
J_{CIE}	81.26	−2.91	71.56	71.62	92
G_{CIE}	52.23	−42.47	13.58	44.6	162
B_{CIE}	30.57	1.33	−46.48	46.51	272

%Gamut
u^*_{rel} = 136
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	56.72	0.05	0.0
*LAB*LABa*	56.72	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	18.02	0.09	0.02
*LAB*LABa*	18.02	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.18	−40.2
*LAB*LABa*	72.29	1.15	−40.21
*LAB*TCHa*	75.0	40.23	271.64

relative* CIELAB *lab*

*lab*lab*	0.701	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.701	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	33.6	1.24	−40.19
*LAB*LABa*	33.6	1.16	−40.21
*LAB*TCHa*	25.01	40.24	271.65

relative* CIELAB *lab*

*lab*lab*	0.201	0.014	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.201	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.37	−80.41
*LAB*LABa*	49.18	2.3	−80.43
*LAB*TCHa*	50.0	80.47	271.64

relative* CIELAB *lab*

*lab*lab*	0.403	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.403	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

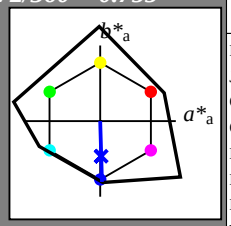
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

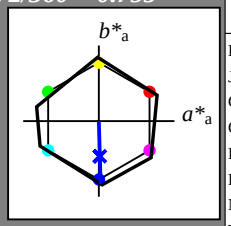
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NRS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 53 83 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	53.2	77.06	34.32	84.36	24
J_{Ma}	53.2	−1.51	84.38	84.39	91
G_{Ma}	53.2	−82.27	18.98	84.44	167
$G50B_{Ma}$	53.2	−77.72	−32.98	84.44	203
B_{Ma}	53.2	4.37	−84.28	84.41	273
$B50R_{Ma}$	53.2	69.09	−48.41	84.37	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 119
%Regularity
$g^*_{H,rel}$ = 47
$g^*_{C,rel}$ = 100

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.512	1.0	(1.0)
*cmyn3**	0.5	0.488	0.0	(0.0)
*olvi4**	0.5	0.512	1.0	1.0
*cmyn4**	0.5	0.488	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	74.3	1.23	−41.51
*LAB*LABa*	74.3	1.2	−41.52
*LAB*TCHa*	75.0	41.54	271.66

relative* CIELAB *lab*

*lab*lab*	0.75	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.75	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.012	0.5	(1.0)
*cmyn3**	1.0	0.988	0.5	(0.0)
*olvi4**	0.5	0.512	1.0	0.5
*cmyn4**	0.5	0.488	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	32.1	1.27	−41.5
*LAB*LABa*	32.1	1.21	−41.52
*LAB*TCHa*	25.01	41.55	271.67

relative* CIELAB *lab*

*lab*lab*	0.25	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.25	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.024	1.0	(1.0)
*cmyn3**	1.0	0.976	0.0	(0.0)
*olvi4**	0.0	0.024	1.0	1.0
*cmyn4**	1.0	0.976	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.2	2.46	−83.04
*LAB*LABa*	53.2	2.42	−83.05
*LAB*TCHa*	50.0	83.09	271.67

relative* CIELAB *lab*

*lab*lab*	0.5	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

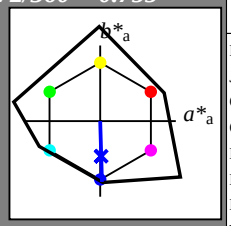
*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)

Input: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

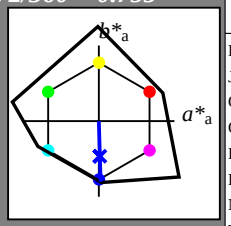
*n** = 1,0

TE100−7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

Output: Colorimetric Reflective System NCS11
for hue *h = *lab*h* = 272/360 = 0.755**
lab*tch* and *lab*nch

D65: hue B
LCH*Ma: 49 80 272
olv*Ma: 0.0 0.02 1.0

triangle lightness *t**



NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
R_{Ma}	47.15	84.64	37.25	92.48	24
J_{Ma}	91.37	−1.27	125.03	125.03	91
G_{Ma}	63.07	−114.28	25.35	117.06	167
$G50B_{Ma}$	59.47	−80.6	−33.45	87.28	203
B_{Ma}	49.01	3.65	−81.19	81.28	273
$B50R_{Ma}$	44.06	106.09	−73.93	129.32	325
N_{Ma}	10.99	0.0	0.0	0.0	0
W_{Ma}	95.41	0.0	0.0	0.0	0
R_{CIE}	39.92	58.69	27.98	65.01	25
J_{CIE}	81.26	−2.9	71.56	71.62	92
G_{CIE}	52.23	−42.45	13.59	44.59	162
B_{CIE}	30.57	1.35	−46.48	46.51	272

%Gamut
u^*_{rel} = 149
%Regularity
$g^*_{H,rel}$ = 46
$g^*_{C,rel}$ = 65

***relative* Inform. Technology (IT)**

*olvi3**	1.0	1.0	1.0	(1.0)
*cmyn3**	0.0	0.0	0.0	(0.0)
*olvi4**	1.0	1.0	1.0	1.0
*cmyn4**	0.0	0.0	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	95.41	0.0	−0.01
*LAB*LABa*	95.41	0.0	0.0
*LAB*TCHa*	99.99	0.01	–

relative* CIELAB *lab*

*lab*lab*	1.0	0.0	0.0
*lab*tch*	1.0	0.0	–
*lab*nch*	0.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	1.0	0.0	0.0
*lab*tce*	1.0	0.0	–
*lab*ncE*	0.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.5	0.5	(1.0)
*cmyn3**	0.5	0.5	0.5	(0.0)
*olvi4**	1.0	1.0	1.0	0.5
*cmyn4**	0.0	0.0	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	53.21	0.04	0.0
*LAB*LABa*	53.21	0.0	0.0
*LAB*TCHa*	50.0	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.5	0.0	0.0
*lab*tch*	0.5	0.0	–
*lab*nch*	0.5	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.5	0.0	0.0
*lab*tce*	0.5	0.0	–
*lab*ncE*	0.5	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.0	0.0	(1.0)
*cmyn3**	1.0	1.0	1.0	(0.0)
*olvi4**	1.0	1.0	1.0	0.0
*cmyn4**	0.0	0.0	0.0	1.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	11.01	0.07	0.01
*LAB*LABa*	11.01	0.0	0.0
*LAB*TCHa*	0.01	0.01	–

relative* CIELAB *lab*

*lab*lab*	0.0	0.0	0.0
*lab*tch*	0.0	0.0	–
*lab*nch*	1.0	0.0	–

***relative* Natural Colour (NC)**

*lab*lrj*	0.0	0.0	0.0
*lab*tce*	0.0	0.0	–
*lab*ncE*	1.0	0.0	–

***relative* Inform. Technology (IT)**

*olvi3**	0.5	0.508	1.0	(1.0)
*cmyn3**	0.5	0.492	0.0	(0.0)
*olvi4**	0.5	0.508	1.0	1.0
*cmyn4**	0.5	0.492	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	72.29	1.2	−40.21
*LAB*LABa*	72.29	1.17	−40.21
*LAB*TCHa*	75.0	40.24	271.66

relative* CIELAB *lab*

*lab*lab*	0.726	0.014	−0.499
*lab*tch*	0.75	0.5	0.755
*lab*nch*	0.0	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.726	0.0	−0.499
*lab*tce*	0.75	0.5	0.75
*lab*ncE*	0.0	0.5	g99b

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.008	0.5	(1.0)
*cmyn3**	1.0	0.992	0.5	(0.0)
*olvi4**	0.5	0.508	1.0	0.5
*cmyn4**	0.5	0.492	0.0	0.5

***standard* and *adapted* CIELAB**

*LAB*LAB*	30.09	1.24	−40.2
*LAB*LABa*	30.09	1.18	−40.21
*LAB*TCHa*	25.01	40.24	271.67

relative* CIELAB *lab*

*lab*lab*	0.226	0.015	−0.499
*lab*tch*	0.25	0.5	0.755
*lab*nch*	0.5	0.5	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.226	0.0	−0.499
*lab*tce*	0.25	0.5	0.75
*lab*ncE*	0.5	0.5	b00r

***relative* Inform. Technology (IT)**

*olvi3**	0.0	0.016	1.0	(1.0)
*cmyn3**	1.0	0.984	0.0	(0.0)
*olvi4**	0.0	0.016	1.0	1.0
*cmyn4**	1.0	0.984	0.0	0.0

***standard* and *adapted* CIELAB**

*LAB*LAB*	49.18	2.39	−80.42
*LAB*LABa*	49.18	2.34	−80.43
*LAB*TCHa*	50.0	80.48	271.67

relative* CIELAB *lab*

*lab*lab*	0.452	0.029	−0.998
*lab*tch*	0.5	1.0	0.755
*lab*nch*	0.0	1.0	0.755

***relative* Natural Colour (NC)**

*lab*lrj*	0.452	0.0	−0.999
*lab*tce*	0.5	1.0	0.75
*lab*ncE*	0.0	1.0	b00r

*n** = 0,00

blackness *n**

0,25 0,50 *n** = 0,50 0,75 1,00

chromaticness *c**

*n** = 1,0

3 step scales for constant CIELAB hue 272/360 = 0.755 (right)