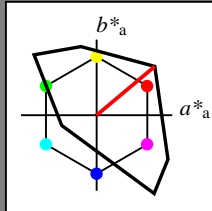


Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 40/360 = 0.111$
 lab^*tch and lab^*nch

D65: hue O
 LCH*Ma: 51 100 40
 olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut
 $u^*_{rel} = 158$
%Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

TLS00; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.1	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	47.72	0.0	0.0
LAB*LABa	47.72	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

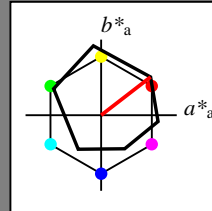
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

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

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

triangle lightness t^*



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

ORS18; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	-0.98	4.75
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	56.71	-0.24	2.14
LAB*LABa	56.71	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	18.02	0.5	-0.47
LAB*LABa	18.02	0.0	0.0
LAB*TCHa	18.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	72.95	38.45	32.27
LAB*LABa	72.95	38.45	32.27
LAB*TCHa	75.0	50.2	40.0

relative CIELAB lab*

lab*lab	0.765	0.383	0.321
lab*tch	0.75	0.5	0.111
lab*nch	0.0	0.5	0.111

relative Natural Colour (NC)

lab*lrj	0.765	0.471	0.167
lab*tce	0.75	0.5	0.054
lab*nce	0.0	0.5	r21j

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	25.26	38.45	32.27
LAB*LABa	25.26	38.45	32.27
LAB*TCHa	25.01	50.2	40.0

relative CIELAB lab*

lab*lab	0.265	0.383	0.321
lab*tch	0.25	0.5	0.111
lab*nch	0.5	0.5	0.111

relative Natural Colour (NC)

lab*lrj	0.265	0.471	0.167
lab*tce	0.25	0.5	0.054
lab*nce	0.5	0.5	r21j

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	18.02	0.5	-0.47
LAB*LABa	18.02	0.0	0.0
LAB*TCHa	18.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

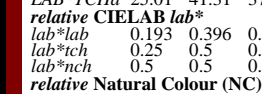
lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-



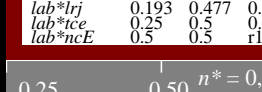
$n^* = 0.00$



chromaticness c^*



$n^* = 0.00$



chromaticness c^*

NE150-7, 3 step scales for constant CIELAB hue 40/360 = 0.111 (left)

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

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18
 D65: 2 coordinate data of 3 step colour scales for 10 hues

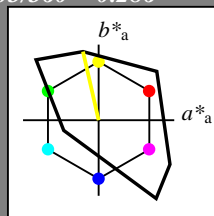
input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 103/360 = 0.286$
 lab^*tch and lab^*nch

D65: hue Y
 LCH*Ma: 93 93 103
 olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut
 $u^*_{rel} = 158$
 %Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 0.0 0.0
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 47.72 0.0 0.0
 LAB*LABa 47.72 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

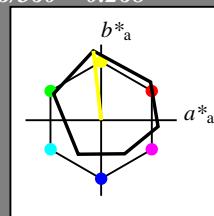
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 96/360 = 0.268$
 lab^*tch and lab^*nch

D65: hue Y
 LCH*Ma: 90 92 96
 olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 -0.98 4.75
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 56.71 -0.24 2.14
 LAB*LABa 56.71 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 18.02 0.5 -0.47
 LAB*LABa 18.02 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 0.5 (1.0)
 cmyn3* 0.0 0.0 0.5 (0.0)
 olvi4* 1.0 1.0 0.5 1.0
 cmyn4* 0.0 0.0 0.5 0.0

standard and adapted CIELAB
 LAB*LAB 94.03 -10.34 45.37
 LAB*LABa 94.03 -10.34 45.37
 LAB*TCHa 75.0 46.53 102.85

relative CIELAB lab*
 lab*lab 0.985 -0.11 0.487
 lab*tch 0.75 0.5 0.286
 lab*nch 0.0 0.5 0.286

relative Natural Colour (NC)
 lab*lrj 0.985 -0.116 0.486
 lab*tce 0.75 0.5 0.288
 lab*nce 0.0 0.5 0.15g

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.0 (1.0)
 cmyn3* 0.5 0.5 1.0 (0.0)
 olvi4* 1.0 1.0 0.5 0.5
 cmyn4* 0.0 0.0 0.5 0.5

standard and adapted CIELAB
 LAB*LAB 46.34 -10.34 45.37
 LAB*LABa 46.34 -10.34 45.37
 LAB*TCHa 25.01 46.53 102.85

relative CIELAB lab*
 lab*lab 0.486 -0.11 0.487
 lab*tch 0.25 0.5 0.286
 lab*nch 0.5 0.5 0.286

relative Natural Colour (NC)
 lab*lrj 0.486 -0.116 0.486
 lab*tce 0.25 0.5 0.288
 lab*nce 0.5 0.5 0.15g

$n^* = 0.50$

$n^* = 0.00$
 blackness n^*

chromaticness c^*

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 0.5 (1.0)
 cmyn3* 0.0 0.0 0.5 (0.0)
 olvi4* 1.0 1.0 0.5 1.0
 cmyn4* 0.0 0.0 0.5 0.0

standard and adapted CIELAB
 LAB*LAB 92.88 -6.06 50.46
 LAB*LABa 92.88 -5.12 45.87
 LAB*TCHa 75.0 46.15 96.38

relative CIELAB lab*
 lab*lab 0.967 -0.055 0.497
 lab*tch 0.75 0.5 0.268
 lab*nch 0.0 0.5 0.268

relative Natural Colour (NC)
 lab*lrj 0.967 -0.048 0.497
 lab*tce 0.75 0.5 0.266
 lab*nce 0.0 0.5 0.06g

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.0 (1.0)
 cmyn3* 0.5 0.5 1.0 (0.0)
 olvi4* 1.0 1.0 0.5 0.5
 cmyn4* 0.0 0.0 0.5 0.5

standard and adapted CIELAB
 LAB*LAB 54.19 -5.32 47.84
 LAB*LABa 54.19 -5.12 45.87
 LAB*TCHa 25.01 46.15 96.38

relative CIELAB lab*
 lab*lab 0.467 -0.055 0.497
 lab*tch 0.25 0.5 0.268
 lab*nch 0.5 0.5 0.268

relative Natural Colour (NC)
 lab*lrj 0.467 -0.048 0.497
 lab*tce 0.25 0.5 0.266
 lab*nce 0.5 0.5 0.06g

$n^* = 0.50$

$n^* = 0.00$
 blackness n^*

chromaticness c^*

NE150-7, 3 step scales for constant CIELAB hue 103/360 = 0.286 (left)

3 step scales for constant CIELAB hue 96/360 = 0.268 (right)

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18
 D65: 2 coordinate data of 3 step colour scales for 10 hues

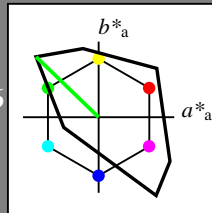
input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 136/360 = 0.378$
 lab^*tch and lab^*nch

D65: hue L
 LCH*Ma: 84 115 136
 olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
O _{Ma}	50.5	76.92	64.55	100.42	40
Y _{Ma}	92.66	-20.69	90.75	93.08	103
L _{Ma}	83.63	-82.75	79.9	115.04	136
C _{Ma}	86.88	-46.16	-13.55	48.12	196
V _{Ma}	30.39	76.06	-103.59	128.52	306
M _{Ma}	57.3	94.35	-58.41	110.97	328
N _{Ma}	0.01	0.0	0.0	0.0	0
W _{Ma}	95.41	0.0	0.0	0.0	0
R _{CIE}	39.92	58.74	27.99	65.07	25
J _{CIE}	81.26	-2.88	71.56	71.62	92
G _{CIE}	52.23	-42.41	13.6	44.55	162
B _{CIE}	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

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

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	47.72	0.0	0.0
LAB*LABa	47.72	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	89.51	-41.36	39.94
LAB*LABa	89.51	-41.36	39.94
LAB*TCHa	75.0	57.51	136.01

relative CIELAB lab*

lab*lab	0.938	-0.359	0.347
lab*tch	0.75	0.5	0.378
lab*nch	0.0	0.5	0.378

relative Natural Colour (NC)

lab*lrj	0.938	-0.415	0.278
lab*tce	0.75	0.5	0.406
lab*nce	0.0	0.5	0.62g

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	41.82	-41.36	39.94
LAB*LABa	41.82	-41.36	39.94
LAB*TCHa	25.01	57.51	136.01

relative CIELAB lab*

lab*lab	0.438	-0.359	0.347
lab*tch	0.25	0.5	0.378
lab*nch	0.5	0.5	0.378

relative Natural Colour (NC)

lab*lrj	0.438	-0.415	0.278
lab*tce	0.25	0.5	0.406
lab*nce	0.5	0.5	0.62g

$n^* = 0.50$

0.25

0.50

0.75

1.00

chromaticness c^*

blackness n^*

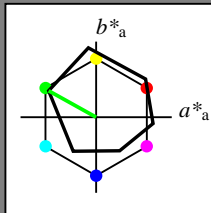
$n^* = 0.00$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 151/360 = 0.419$
 lab^*tch and lab^*nch

D65: hue L
 LCH*Ma: 51 72 151
 olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	-0.98	4.75
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)

lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	56.71	-0.24	2.14
LAB*LABa	56.71	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*

lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)

lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	18.02	0.5	-0.47
LAB*LABa	18.02	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)

lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

0.25

0.50

0.75

1.00

chromaticness c^*

blackness n^*

$n^* = 0.00$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	73.15	-31.96	20.73
LAB*LABa	73.15	-31.4	17.48
LAB*TCHa	75.0	35.95	150.91

relative CIELAB lab*

lab*lab	0.712	-0.436	0.243
lab*tch	0.75	0.5	0.419
lab*nch	0.0	0.5	0.419

relative Natural Colour (NC)

lab*lrj	0.712	-0.478	0.144
lab*tce	0.75	0.5	0.453
lab*nce	0.0	0.5	0.81g

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	34.46	-31.22	18.12
LAB*LABa	34.46	-31.4	17.48
LAB*TCHa	25.01	35.95	150.91

relative CIELAB lab*

lab*lab	0.213	-0.436	0.243
lab*tch	0.25	0.5	0.419
lab*nch	0.5	0.5	0.419

relative Natural Colour (NC)

lab*lrj	0.213	-0.478	0.144
lab*tce	0.25	0.5	0.453
lab*nce	0.5	0.5	0.81g

$n^* = 0.50$

0.25

0.50

0.75

1.00

chromaticness c^*

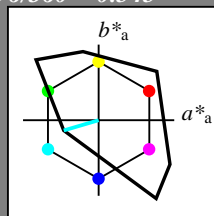
blackness n^*

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 196/360 = 0.545$
 lab^*tch and lab^*nch

D65: hue C
 LCH*Ma: 87 48 196
 olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut
 $u^*_{rel} = 158$
 %Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 0.0 0.0
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 47.72 0.0 0.0
 LAB*LABa 47.72 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olvi3* 0.5 1.0 1.0 (1.0)
 cmyn3* 0.5 0.0 0.0 (0.0)
 olvi4* 0.5 1.0 1.0 1.0
 cmyn4* 0.5 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 91.14 -23.07 -6.77
 LAB*LABa 91.14 -23.07 -6.77
 LAB*TCHa 75.0 24.06 196.37

relative CIELAB lab*
 lab*lab 0.955 -0.479 -0.14
 lab*tch 0.75 0.5 0.545
 lab*nch 0.0 0.5 0.545

relative Natural Colour (NC)
 lab*lrj 0.955 -0.44 -0.234
 lab*tce 0.75 0.5 0.578
 lab*nce 0.0 0.5 g31b

relative Inform. Technology (IT)
 olvi3* 0.0 0.5 0.5 (1.0)
 cmyn3* 1.0 0.5 0.5 (0.0)
 olvi4* 0.5 1.0 1.0 0.5
 cmyn4* 0.5 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 43.45 -23.07 -6.77
 LAB*LABa 43.45 -23.07 -6.77
 LAB*TCHa 25.01 24.06 196.37

relative CIELAB lab*
 lab*lab 0.455 -0.479 -0.14
 lab*tch 0.25 0.5 0.545
 lab*nch 0.5 0.5 0.545

relative Natural Colour (NC)
 lab*lrj 0.455 -0.44 -0.234
 lab*tce 0.25 0.5 0.578
 lab*nce 0.5 0.5 g31b

$n^* = 0.50$

$n^* = 0.00$

relative Inform. Technology (IT)
 olvi3* 0.0 1.0 1.0 (1.0)
 cmyn3* 1.0 0.0 0.0 (0.0)
 olvi4* 0.0 1.0 1.0 1.0
 cmyn4* 1.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 86.87 -46.15 -13.55
 LAB*LABa 86.87 -46.15 -13.55
 LAB*TCHa 50.0 48.11 196.37

relative CIELAB lab*
 lab*lab 0.911 -0.958 -0.281
 lab*tch 0.5 1.0 0.545
 lab*nch 0.0 1.0 0.545

relative Natural Colour (NC)
 lab*lrj 0.911 -0.881 -0.469
 lab*tce 0.5 1.0 0.578
 lab*nce 0.0 1.0 g31b

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.0$

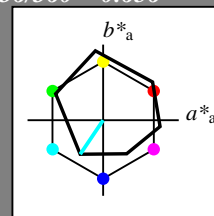
chromaticness c^*

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 236/360 = 0.656$
 lab^*tch and lab^*nch

D65: hue C
 LCH*Ma: 59 54 236
 olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 -0.98 4.75
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 56.71 -0.24 2.14
 LAB*LABa 56.71 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 18.02 0.5 -0.47
 LAB*LABa 18.02 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olvi3* 0.5 1.0 1.0 (1.0)
 cmyn3* 0.5 0.0 0.0 (0.0)
 olvi4* 0.5 1.0 1.0 1.0
 cmyn4* 0.5 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 77.01 -15.8 -18.98
 LAB*LABa 77.01 -15.16 -22.5
 LAB*TCHa 75.0 27.14 236.02

relative CIELAB lab*
 lab*lab 0.762 -0.278 -0.414
 lab*tch 0.75 0.5 0.656
 lab*nch 0.0 0.5 0.656

relative Natural Colour (NC)
 lab*lrj 0.762 -0.247 -0.433
 lab*tce 0.75 0.5 0.667
 lab*nce 0.0 0.5 g66b

relative Inform. Technology (IT)
 olvi3* 0.0 0.5 0.5 (1.0)
 cmyn3* 1.0 0.5 0.5 (0.0)
 olvi4* 0.5 1.0 1.0 0.5
 cmyn4* 0.5 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 38.32 -15.05 -21.6
 LAB*LABa 38.32 -15.16 -22.5
 LAB*TCHa 25.01 27.14 236.02

relative CIELAB lab*
 lab*lab 0.262 -0.278 -0.414
 lab*tch 0.25 0.5 0.656
 lab*nch 0.5 0.5 0.656

relative Natural Colour (NC)
 lab*lrj 0.262 -0.247 -0.433
 lab*tce 0.25 0.5 0.667
 lab*nce 0.5 0.5 g66b

$n^* = 0.50$

$n^* = 0.00$

chromaticness c^*

NE150-7, 3 step scales for constant CIELAB hue 196/360 = 0.545 (left)

3 step scales for constant CIELAB hue 236/360 = 0.656 (right)

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18
 D65: 2 coordinate data of 3 step colour scales for 10 hues

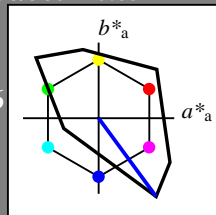
input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 306/360 = 0.851$
 lab^*tch and lab^*nch

D65: hue V
LCH*Ma: 30 129 306
olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut

$u^*_{rel} = 158$

%Regularity

$g^*_{H,rel} = 20$

$g^*_{C,rel} = 37$

relative Inform. Technology (IT)
 $olvi3^* \quad 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$
 $cmyn3^* \quad 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$
 $olvi4^* \quad 1.0 \quad 1.0 \quad 1.0 \quad 1.0$
 $cmyn4^* \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB
 $LAB^*LAB \quad 95.41 \quad 0.0 \quad 0.0$
 $LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$
 $LAB^*TCHa \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab*
 $lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$
 $lab^*tch \quad 1.0 \quad 0.0 \quad -$
 $lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)
 $lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$
 $lab^*tce \quad 1.0 \quad 0.0 \quad -$
 $lab^*nce \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$
 $cmyn3^* \quad 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$
 $olvi4^* \quad 1.0 \quad 1.0 \quad 1.0 \quad 0.5$
 $cmyn4^* \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB
 $LAB^*LAB \quad 47.72 \quad 0.0 \quad 0.0$
 $LAB^*LABa \quad 47.72 \quad 0.0 \quad 0.0$
 $LAB^*TCHa \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab*
 $lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$
 $lab^*tch \quad 0.5 \quad 0.0 \quad -$
 $lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.5 \quad 0.0 \quad 0.0$
 $lab^*tce \quad 0.5 \quad 0.0 \quad -$
 $lab^*nce \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$
 $cmyn3^* \quad 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$
 $olvi4^* \quad 1.0 \quad 1.0 \quad 1.0 \quad 0.0$
 $cmyn4^* \quad 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB
 $LAB^*LAB \quad 0.03 \quad 0.0 \quad 0.0$
 $LAB^*LABa \quad 0.03 \quad 0.0 \quad 0.0$
 $LAB^*TCHa \quad 0.01 \quad 0.01 \quad -$

relative CIELAB lab*
 $lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$
 $lab^*tch \quad 0.0 \quad 0.0 \quad -$
 $lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.0 \quad 0.0 \quad 0.0$
 $lab^*tce \quad 0.0 \quad 0.0 \quad -$
 $lab^*nce \quad 1.0 \quad 0.0 \quad -$

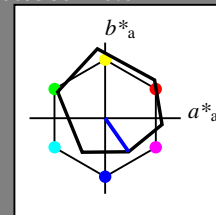
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 305/360 = 0.847$
 lab^*tch and lab^*nch

D65: hue V
LCH*Ma: 26 54 305
olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



ORS18; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

%Gamut

$u^*_{rel} = 93$

%Regularity

$g^*_{H,rel} = 57$

$g^*_{C,rel} = 59$

relative Inform. Technology (IT)
 $olvi3^* \quad 1.0 \quad 1.0 \quad 1.0 \quad (1.0)$
 $cmyn3^* \quad 0.0 \quad 0.0 \quad 0.0 \quad (0.0)$
 $olvi4^* \quad 1.0 \quad 1.0 \quad 1.0 \quad 1.0$
 $cmyn4^* \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.0$

standard and adapted CIELAB
 $LAB^*LAB \quad 95.41 \quad -0.98 \quad 4.75$
 $LAB^*LABa \quad 95.41 \quad 0.0 \quad 0.0$
 $LAB^*TCHa \quad 99.99 \quad 0.01 \quad -$

relative CIELAB lab*
 $lab^*lab \quad 1.0 \quad 0.0 \quad 0.0$
 $lab^*tch \quad 1.0 \quad 0.0 \quad -$
 $lab^*nch \quad 0.0 \quad 0.0 \quad -$

relative Natural Colour (NC)
 $lab^*lrj \quad 1.0 \quad 0.0 \quad 0.0$
 $lab^*tce \quad 1.0 \quad 0.0 \quad -$
 $lab^*nce \quad 0.0 \quad 0.0 \quad -$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.5 \quad 0.5 \quad 0.5 \quad (1.0)$
 $cmyn3^* \quad 0.5 \quad 0.5 \quad 0.5 \quad (0.0)$
 $olvi4^* \quad 1.0 \quad 1.0 \quad 1.0 \quad 0.5$
 $cmyn4^* \quad 0.0 \quad 0.0 \quad 0.0 \quad 0.5$

standard and adapted CIELAB
 $LAB^*LAB \quad 56.71 \quad -0.24 \quad 2.14$
 $LAB^*LABa \quad 56.71 \quad 0.0 \quad 0.0$
 $LAB^*TCHa \quad 50.0 \quad 0.01 \quad -$

relative CIELAB lab*
 $lab^*lab \quad 0.5 \quad 0.0 \quad 0.0$
 $lab^*tch \quad 0.5 \quad 0.0 \quad -$
 $lab^*nch \quad 0.5 \quad 0.0 \quad -$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.5 \quad 0.0 \quad 0.0$
 $lab^*tce \quad 0.5 \quad 0.0 \quad -$
 $lab^*nce \quad 0.5 \quad 0.0 \quad -$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.0 \quad 0.0 \quad 0.0 \quad (1.0)$
 $cmyn3^* \quad 1.0 \quad 1.0 \quad 1.0 \quad (0.0)$
 $olvi4^* \quad 1.0 \quad 1.0 \quad 1.0 \quad 0.0$
 $cmyn4^* \quad 0.0 \quad 0.0 \quad 0.0 \quad 1.0$

standard and adapted CIELAB
 $LAB^*LAB \quad 18.02 \quad 0.5 \quad -0.47$
 $LAB^*LABa \quad 18.02 \quad 0.0 \quad 0.0$
 $LAB^*TCHa \quad 18.01 \quad 0.01 \quad -$

relative CIELAB lab*
 $lab^*lab \quad 0.0 \quad 0.0 \quad 0.0$
 $lab^*tch \quad 0.0 \quad 0.0 \quad -$
 $lab^*nch \quad 1.0 \quad 0.0 \quad -$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.0 \quad 0.0 \quad 0.0$
 $lab^*tce \quad 0.0 \quad 0.0 \quad -$
 $lab^*nce \quad 1.0 \quad 0.0 \quad -$

$n^* = 1.0$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.5 \quad 0.5 \quad 1.0 \quad (1.0)$
 $cmyn3^* \quad 0.5 \quad 0.5 \quad 0.0 \quad (0.0)$
 $olvi4^* \quad 0.5 \quad 0.5 \quad 1.0 \quad 1.0$
 $cmyn4^* \quad 0.5 \quad 0.5 \quad 0.0 \quad 0.0$

standard and adapted CIELAB
 $LAB^*LAB \quad 62.9 \quad 38.02 \quad -51.78$
 $LAB^*LABa \quad 62.9 \quad 38.02 \quad -51.78$
 $LAB^*TCHa \quad 75.0 \quad 64.25 \quad 306.29$

relative CIELAB lab*
 $lab^*lab \quad 0.659 \quad 0.296 \quad -0.402$
 $lab^*tch \quad 0.75 \quad 0.5 \quad 0.851$
 $lab^*nch \quad 0.0 \quad 0.5 \quad 0.851$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.659 \quad 0.23 \quad -0.443$
 $lab^*tce \quad 0.75 \quad 0.5 \quad 0.826$
 $lab^*nce \quad 0.0 \quad 0.5 \quad b30r$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.0 \quad 0.0 \quad 0.5 \quad (1.0)$
 $cmyn3^* \quad 1.0 \quad 1.0 \quad 0.5 \quad (0.0)$
 $olvi4^* \quad 0.5 \quad 0.5 \quad 1.0 \quad 0.5$
 $cmyn4^* \quad 0.5 \quad 0.5 \quad 0.0 \quad 0.5$

standard and adapted CIELAB
 $LAB^*LAB \quad 15.21 \quad 38.02 \quad -51.78$
 $LAB^*LABa \quad 15.21 \quad 38.02 \quad -51.78$
 $LAB^*TCHa \quad 25.01 \quad 64.25 \quad 306.29$

relative CIELAB lab*
 $lab^*lab \quad 0.159 \quad 0.296 \quad -0.402$
 $lab^*tch \quad 0.25 \quad 0.5 \quad 0.851$
 $lab^*nch \quad 0.5 \quad 0.5 \quad 0.851$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.159 \quad 0.23 \quad -0.443$
 $lab^*tce \quad 0.25 \quad 0.5 \quad 0.826$
 $lab^*nce \quad 0.5 \quad 0.5 \quad b30r$

$n^* = 0.50$

chromaticness c^*

$n^* = 0.00$

blackness n^*

$n^* = 1.00$

$n^* = 0.25$

$n^* = 0.75$

$n^* = 1.00$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.5 \quad 0.5 \quad 1.0 \quad (1.0)$
 $cmyn3^* \quad 0.5 \quad 0.5 \quad 0.0 \quad (0.0)$
 $olvi4^* \quad 0.5 \quad 0.5 \quad 1.0 \quad 1.0$
 $cmyn4^* \quad 0.5 \quad 0.5 \quad 0.0 \quad 0.0$

standard and adapted CIELAB
 $LAB^*LAB \quad 60.56 \quad 15.23 \quad -19.79$
 $LAB^*LABa \quad 60.56 \quad 15.55 \quad -22.19$
 $LAB^*TCHa \quad 75.0 \quad 27.1 \quad 305.0$

relative CIELAB lab*
 $lab^*lab \quad 0.55 \quad 0.287 \quad -0.408$
 $lab^*tch \quad 0.75 \quad 0.5 \quad 0.847$
 $lab^*nch \quad 0.0 \quad 0.5 \quad 0.847$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.55 \quad 0.225 \quad -0.446$
 $lab^*tce \quad 0.75 \quad 0.5 \quad 0.824$
 $lab^*nce \quad 0.0 \quad 0.5 \quad b29r$

relative Inform. Technology (IT)
 $olvi3^* \quad 0.0 \quad 0.0 \quad 0.5 \quad (1.0)$
 $cmyn3^* \quad 1.0 \quad 1.0 \quad 0.5 \quad (0.0)$
 $olvi4^* \quad 0.5 \quad 0.5 \quad 1.0 \quad 0.5$
 $cmyn4^* \quad 0.5 \quad 0.5 \quad 0.0 \quad 0.5$

standard and adapted CIELAB
 $LAB^*LAB \quad 21.87 \quad 15.97 \quad -22.4$
 $LAB^*LABa \quad 21.87 \quad 15.55 \quad -22.19$
 $LAB^*TCHa \quad 25.01 \quad 27.1 \quad 305.0$

relative CIELAB lab*
 $lab^*lab \quad 0.05 \quad 0.287 \quad -0.408$
 $lab^*tch \quad 0.25 \quad 0.5 \quad 0.847$
 $lab^*nch \quad 0.5 \quad 0.5 \quad 0.847$

relative Natural Colour (NC)
 $lab^*lrj \quad 0.05 \quad 0.225 \quad -0.446$
 $lab^*tce \quad 0.25 \quad 0.5 \quad 0.824$
 $lab^*nce \quad 0.5 \quad 0.5 \quad b29r$

$n^* = 0.50$

chromaticness c^*

$n^* = 0.00$

blackness n^*

$n^* = 1.00$

$n^* = 0.25$

$n^* = 0.75$

$n^* = 1.00$

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18
D65: 2 coordinate data of 3 step colour scales for 10 hues

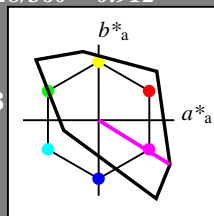
input: $olv^* setrgbcolor$
output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 328/360 = 0.912$
 lab^*tch and lab^*nch

D65: hue M
 LCH*Ma: 57 111 328
 olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut
 $u^*_{rel} = 158$
 %Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 0.0 0.0
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olv4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 47.72 0.0 0.0
 LAB*LABa 47.72 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olv3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olv4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

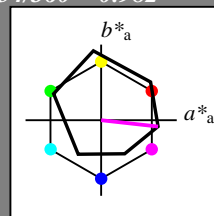
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 354/360 = 0.982$
 lab^*tch and lab^*nch

D65: hue M
 LCH*Ma: 48 76 354
 olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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

relative Inform. Technology (IT)
 olv3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olv4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 -0.98 4.75
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olv3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olv4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 56.71 -0.24 2.14
 LAB*LABa 56.71 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olv3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olv4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 18.02 0.5 -0.47
 LAB*LABa 18.02 0.0 0.0
 LAB*TCHa 18.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olv3* 1.0 0.5 1.0 (1.0)
 cmyn3* 0.0 0.5 0.0 (0.0)
 olv4* 1.0 0.5 1.0 1.0
 cmyn4* 0.0 0.5 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 76.35 47.17 -29.19
 LAB*LABa 76.35 47.17 -29.19
 LAB*TCHa 75.0 55.47 328.23

relative CIELAB lab*
 lab*lab 0.8 0.425 -0.262
 lab*tch 0.75 0.5 0.912
 lab*nch 0.0 0.5 0.912

relative Natural Colour (NC)
 lab*lrj 0.8 0.352 -0.354
 lab*tce 0.75 0.5 0.874
 lab*nce 0.0 0.5 b49r

relative Inform. Technology (IT)
 olv3* 0.5 0.0 0.5 (1.0)
 cmyn3* 0.5 1.0 0.5 (0.0)
 olv4* 1.0 0.5 1.0 0.5
 cmyn4* 0.0 0.5 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 28.66 47.17 -29.19
 LAB*LABa 28.66 47.17 -29.19
 LAB*TCHa 25.01 55.47 328.23

relative CIELAB lab*
 lab*lab 0.3 0.425 -0.262
 lab*tch 0.25 0.5 0.912
 lab*nch 0.5 0.5 0.912

relative Natural Colour (NC)
 lab*lrj 0.3 0.352 -0.354
 lab*tce 0.25 0.5 0.874
 lab*nce 0.5 0.5 b49r

$n^* = 0.50$

relative Inform. Technology (IT)
 olv3* 1.0 0.0 1.0 (1.0)
 cmyn3* 0.0 1.0 0.0 (0.0)
 olv4* 1.0 0.0 1.0 1.0
 cmyn4* 0.0 1.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 57.3 94.33 -58.4
 LAB*LABa 57.3 94.33 -58.4
 LAB*TCHa 50.0 110.95 328.23

relative CIELAB lab*
 lab*lab 0.601 0.85 -0.525
 lab*tch 0.5 1.0 0.912
 lab*nch 0.0 1.0 0.912

relative Natural Colour (NC)
 lab*lrj 0.601 0.703 -0.71
 lab*tce 0.5 1.0 0.874
 lab*nce 0.0 1.0 b49r

$n^* = 0.00$

blackness n^*

chromaticness c^*

relative Inform. Technology (IT)
 olv3* 1.0 0.5 1.0 (1.0)
 cmyn3* 0.0 0.5 0.0 (0.0)
 olv4* 1.0 0.5 1.0 1.0
 cmyn4* 0.0 0.5 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 71.77 37.1 -1.01
 LAB*LABa 71.77 37.63 -4.17
 LAB*TCHa 75.0 37.86 353.66

relative CIELAB lab*
 lab*lab 0.695 0.497 -0.054
 lab*tch 0.75 0.5 0.982
 lab*nch 0.0 0.5 0.982

relative Natural Colour (NC)
 lab*lrj 0.695 0.454 -0.208
 lab*tce 0.75 0.5 0.932
 lab*nce 0.0 0.5 b72r

relative Inform. Technology (IT)
 olv3* 0.5 0.0 0.5 (1.0)
 cmyn3* 0.5 1.0 0.5 (0.0)
 olv4* 1.0 0.5 1.0 0.5
 cmyn4* 0.0 0.5 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 33.07 37.84 -3.62
 LAB*LABa 33.07 37.63 -4.17
 LAB*TCHa 25.01 37.86 353.66

relative CIELAB lab*
 lab*lab 0.195 0.497 -0.054
 lab*tch 0.25 0.5 0.982
 lab*nch 0.5 0.5 0.982

relative Natural Colour (NC)
 lab*lrj 0.195 0.454 -0.208
 lab*tce 0.25 0.5 0.932
 lab*nce 0.5 0.5 b72r

$n^* = 0.00$

blackness n^*

chromaticness c^*

NE150-7, 3 step scales for constant CIELAB hue 328/360 = 0.912 (left)

3 step scales for constant CIELAB hue 354/360 = 0.982 (right)

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18
 D65: 2 coordinate data of 3 step colour scales for 10 hues

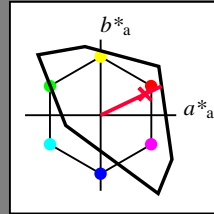
input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 25/360 = 0.071$
 lab^*tch and lab^*nch

D65: hue R
 LCH*Ma: 52 89 25
 olv*Ma: 1.0 0.0 0.21

triangle lightness t^*



%Gamut
 $u^*_{rel} = 158$
 %Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

relative Inform. Technology (IT)	0.0	1.0	1.0	(1.0)
olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi4*	1.0	1.0	1.0	1.0
cmyn4*	0.0	0.0	0.0	0.0

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	95.41	0.0	0.0
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)	0.5	0.5	0.5	(1.0)
olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi4*	1.0	1.0	1.0	0.5
cmyn4*	0.0	0.0	0.0	0.5

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	47.72	0.0	0.0
LAB*LABa	47.72	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)	0.0	0.0	0.0	(1.0)
olvi3*	0.0	0.0	0.0	(1.0)
cmyn3*	1.0	1.0	1.0	(0.0)
olvi4*	1.0	1.0	1.0	0.0
cmyn4*	0.0	0.0	0.0	1.0

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	0.03	0.0	0.0
LAB*LABa	0.03	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

$n^* = 1.0$

TLS00; adapted (a) CIELAB data					
$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$	
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

relative Inform. Technology (IT)	1.0	0.5	0.606	(1.0)
olvi3*	1.0	0.5	0.606	(1.0)
cmyn3*	0.0	0.5	0.394	(0.0)
olvi4*	1.0	0.5	0.606	1.0
cmyn4*	0.0	0.5	0.394	0.0

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	73.67	40.3	19.2
LAB*LABa	73.67	40.3	19.2
LAB*TCHa	75.0	44.64	25.47

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.772	0.451	0.215
lab*tch	0.75	0.5	0.071
lab*nch	0.0	0.5	0.071

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.772	0.5	0.0
lab*tce	0.75	0.5	1.0
lab*nce	0.0	0.5	b99r

relative Inform. Technology (IT)	0.5	0.0	0.106	(1.0)
olvi3*	0.5	0.0	0.106	(1.0)
cmyn3*	0.5	1.0	0.894	(0.0)
olvi4*	1.0	0.5	0.606	0.5
cmyn4*	0.0	0.5	0.394	0.5

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	25.98	40.3	19.21
LAB*LABa	25.98	40.3	19.21
LAB*TCHa	25.01	44.65	25.49

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.272	0.451	0.215
lab*tch	0.25	0.5	0.071
lab*nch	0.5	0.5	0.071

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.272	0.5	0.0
lab*tce	0.25	0.5	0.0
lab*nce	0.5	0.5	r00j

relative Inform. Technology (IT)	0.0	0.0	0.0	(1.0)
olvi3*	0.0	0.0	0.0	(1.0)
cmyn3*	1.0	1.0	1.0	(0.0)
olvi4*	1.0	1.0	1.0	0.0
cmyn4*	0.0	0.0	0.0	1.0

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	18.02	0.5	-0.47
LAB*LABa	18.02	0.5	0.0
LAB*TCHa	18.01	0.01	-

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.0	0.0	0.0
lab*tch	0.0	0.0	-
lab*nch	1.0	0.0	-

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.0	0.0	0.0
lab*tce	0.0	0.0	-
lab*nce	1.0	0.0	-

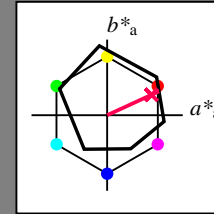
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 25/360 = 0.069$
 lab^*tch and lab^*nch

D65: hue R
 LCH*Ma: 48 75 25
 olv*Ma: 1.0 0.0 0.32

triangle lightness t^*



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

relative Inform. Technology (IT)	1.0	1.0	1.0	(1.0)
olvi3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.0	0.0	(0.0)
olvi4*	1.0	1.0	1.0	1.0
cmyn4*	0.0	0.0	0.0	0.0

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	95.41	-0.98	4.75
LAB*LABa	95.41	0.0	0.0
LAB*TCHa	99.99	0.01	-

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	1.0	0.0	0.0
lab*tch	1.0	0.0	-
lab*nch	0.0	0.0	-

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	1.0	0.0	0.0
lab*tce	1.0	0.0	-
lab*nce	0.0	0.0	-

relative Inform. Technology (IT)	0.5	0.5	0.5	(1.0)
olvi3*	0.5	0.5	0.5	(1.0)
cmyn3*	0.5	0.5	0.5	(0.0)
olvi4*	1.0	1.0	1.0	0.5
cmyn4*	0.0	0.0	0.0	0.5

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	56.71	-0.24	2.14
LAB*LABa	56.71	0.0	0.0
LAB*TCHa	50.0	0.01	-

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.5	0.0	0.0
lab*tch	0.5	0.0	-
lab*nch	0.5	0.0	-

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.5	0.0	0.0
lab*tce	0.5	0.0	-
lab*nce	0.5	0.0	-

relative Inform. Technology (IT)	0.0	0.0	0.0	(1.0)
olvi3*	0.0	0.0	0.0	(1.0)
cmyn3*	1.0	1.0	1.0	(0.0)
olvi4*	1.0	1.0	1.0	0.0
cmyn4*	0.0	0.0	0.0	1.0

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	33.01	34.49	16.31
LAB*LABa	33.01	34.28	15.77
LAB*TCHa	25.01	37.73	24.7

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.194	0.454	0.209
lab*tch	0.25	0.5	0.069
lab*nch	0.5	0.5	0.069

relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.194	0.5	0.0
lab*tce	0.25	0.5	0.0
lab*nce	0.5	0.5	r00j

relative Inform. Technology (IT)	0.0	0.0	0.0	(1.0)
olvi3*	0.0	0.0	0.0	(1.0)
cmyn3*	1.0	1.0	1.0	(0.0)
olvi4*	1.0	1.0	1.0	0.0
cmyn4*	0.0	0.0	0.0	1.0

standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa
LAB*LAB	33.01	34.49	16.31
LAB*LABa	33.01	34.28	15.77
LAB*TCHa	25.01	37.73	24.7

relative CIELAB lab*	lab*lab	lab*tch	lab*nch
lab*lab	0.694	0.454	0.209
lab*tch	0.75	0.5	0.069
lab*nch	0.0	0.5	0.069

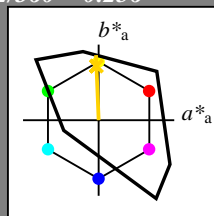
relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce
lab*lrj	0.694	0.5	0.0
lab*tce	0.75	0.5	1.0
lab*nce	0.0	0.5	b99r

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 92/360 = 0.256$
 lab^*tch and lab^*nch

D65: hue J
 LCH*Ma: 85 86 92
 olv*Ma: 1.0 0.82 0.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut
 $u^*_{rel} = 158$
 %Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

relative Inform. Technology (IT)
 $olvi3^* 1.0 1.0 1.0 (1.0)$
 $cmyn3^* 0.0 0.0 0.0 (0.0)$
 $olvi4^* 1.0 1.0 1.0 1.0$
 $cmyn4^* 0.0 0.0 0.0 0.0$

standard and adapted CIELAB
 $LAB^*LAB 95.41 0.0 0.0$
 $LAB^*LABa 95.41 0.0 0.0$
 $LAB^*TCHa 99.99 0.01 -$

relative CIELAB lab*
 $lab^*lab 1.0 0.0 0.0$
 $lab^*tch 1.0 0.0 -$
 $lab^*nch 0.0 0.0 -$

relative Natural Colour (NC)
 $lab^*lrj 1.0 0.0 0.0$
 $lab^*tce 1.0 0.0 -$
 $lab^*nce 0.0 0.0 -$

relative Inform. Technology (IT)
 $olvi3^* 0.5 0.5 0.5 (1.0)$
 $cmyn3^* 0.5 0.5 0.5 (0.0)$
 $olvi4^* 1.0 1.0 1.0 0.5$
 $cmyn4^* 0.0 0.0 0.0 0.5$

standard and adapted CIELAB
 $LAB^*LAB 47.72 0.0 0.0$
 $LAB^*LABa 47.72 0.0 0.0$
 $LAB^*TCHa 50.0 0.01 -$

relative CIELAB lab*
 $lab^*lab 0.5 0.0 0.0$
 $lab^*tch 0.5 0.0 -$
 $lab^*nch 0.5 0.0 -$

relative Natural Colour (NC)
 $lab^*lrj 0.5 0.0 0.0$
 $lab^*tce 0.5 0.0 -$
 $lab^*nce 0.5 0.0 -$

relative Inform. Technology (IT)
 $olvi3^* 0.0 0.0 0.0 (1.0)$
 $cmyn3^* 1.0 1.0 1.0 (0.0)$
 $olvi4^* 1.0 1.0 1.0 0.0$
 $cmyn4^* 0.0 0.0 0.0 1.0$

standard and adapted CIELAB
 $LAB^*LAB 0.03 0.0 0.0$
 $LAB^*LABa 0.03 0.0 0.0$
 $LAB^*TCHa 0.01 0.01 -$

relative CIELAB lab*
 $lab^*lab 0.0 0.0 0.0$
 $lab^*tch 0.0 0.0 -$
 $lab^*nch 1.0 0.0 -$

relative Natural Colour (NC)
 $lab^*lrj 0.0 0.0 0.0$
 $lab^*tce 0.0 0.0 -$
 $lab^*nce 1.0 0.0 -$

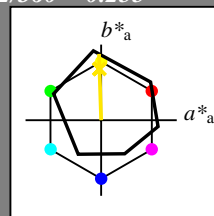
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 92/360 = 0.255$
 lab^*tch and lab^*nch

D65: hue J
 LCH*Ma: 86 88 92
 olv*Ma: 1.0 0.9 0.0

triangle lightness t^*



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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

relative Inform. Technology (IT)
 $olvi3^* 1.0 1.0 1.0 (1.0)$
 $cmyn3^* 0.0 0.0 0.0 (0.0)$
 $olvi4^* 1.0 1.0 1.0 1.0$
 $cmyn4^* 0.0 0.0 0.0 0.0$

standard and adapted CIELAB
 $LAB^*LAB 95.41 -0.98 4.75$
 $LAB^*LABa 95.41 0.0 0.0$
 $LAB^*TCHa 99.99 0.01 -$

relative CIELAB lab*
 $lab^*lab 1.0 0.0 0.0$
 $lab^*tch 1.0 0.0 -$
 $lab^*nch 0.0 0.0 -$

relative Natural Colour (NC)
 $lab^*lrj 1.0 0.0 0.0$
 $lab^*tce 1.0 0.0 -$
 $lab^*nce 0.0 0.0 -$

relative Inform. Technology (IT)
 $olvi3^* 0.5 0.5 0.5 (1.0)$
 $cmyn3^* 0.5 0.5 0.5 (0.0)$
 $olvi4^* 1.0 1.0 1.0 0.5$
 $cmyn4^* 0.0 0.0 0.0 0.5$

standard and adapted CIELAB
 $LAB^*LAB 56.71 -0.24 2.14$
 $LAB^*LABa 56.71 0.0 0.0$
 $LAB^*TCHa 50.0 0.01 -$

relative CIELAB lab*
 $lab^*lab 0.5 0.0 0.0$
 $lab^*tch 0.5 0.0 -$
 $lab^*nch 0.5 0.0 -$

relative Natural Colour (NC)
 $lab^*lrj 0.5 0.0 0.0$
 $lab^*tce 0.5 0.0 -$
 $lab^*nce 0.5 0.0 -$

relative Inform. Technology (IT)
 $olvi3^* 1.0 0.951 0.5 (1.0)$
 $cmyn3^* 0.0 0.049 0.5 (0.0)$
 $olvi4^* 1.0 0.951 0.5 1.0$
 $cmyn4^* 0.0 0.049 0.5 0.0$

standard and adapted CIELAB
 $LAB^*LAB 90.8 -2.3 48.29$
 $LAB^*LABa 90.8 -1.4 43.84$
 $LAB^*TCHa 75.0 43.86 91.85$

relative CIELAB lab*
 $lab^*lab 0.94 -0.015 0.5$
 $lab^*tch 0.75 0.5 0.255$
 $lab^*nch 0.0 0.5 0.255$

relative Natural Colour (NC)
 $lab^*lrj 0.94 0.0 0.5$
 $lab^*tce 0.75 0.5 0.25$
 $lab^*nce 0.0 0.5 j00g$

relative Inform. Technology (IT)
 $olvi3^* 0.5 0.451 0.0 (1.0)$
 $cmyn3^* 0.5 0.549 1.0 (0.0)$
 $olvi4^* 1.0 0.951 0.5 0.5$
 $cmyn4^* 0.0 0.049 0.5 0.5$

standard and adapted CIELAB
 $LAB^*LAB 52.1 -1.55 45.67$
 $LAB^*LABa 52.1 -1.39 43.83$
 $LAB^*TCHa 25.01 43.86 91.84$

relative CIELAB lab*
 $lab^*lab 0.44 -0.015 0.5$
 $lab^*tch 0.25 0.5 0.255$
 $lab^*nch 0.5 0.5 0.255$

relative Natural Colour (NC)
 $lab^*lrj 0.44 0.0 0.5$
 $lab^*tce 0.25 0.5 0.25$
 $lab^*nce 0.5 0.5 j99j$

$n^* = 0.00$

relative Inform. Technology (IT)
 $olvi3^* 1.0 0.912 0.5 (1.0)$
 $cmyn3^* 0.0 0.088 0.5 (0.0)$
 $olvi4^* 1.0 0.912 0.5 1.0$
 $cmyn4^* 0.0 0.088 0.5 0.0$

standard and adapted CIELAB
 $LAB^*LAB 90.31 -1.74 43.06$
 $LAB^*LABa 90.31 -1.74 43.06$
 $LAB^*TCHa 75.0 43.09 92.32$

relative CIELAB lab*
 $lab^*lab 0.947 -0.019 0.499$
 $lab^*tch 0.75 0.5 0.256$
 $lab^*nch 0.0 0.5 0.256$

relative Natural Colour (NC)
 $lab^*lrj 0.947 0.0 0.5$
 $lab^*tce 0.75 0.5 0.25$
 $lab^*nce 0.0 0.5 j00g$

relative Inform. Technology (IT)
 $olvi3^* 0.5 0.412 0.0 (1.0)$
 $cmyn3^* 0.5 0.588 1.0 (0.0)$
 $olvi4^* 1.0 0.912 0.5 0.5$
 $cmyn4^* 0.0 0.088 0.5 0.5$

standard and adapted CIELAB
 $LAB^*LAB 42.62 -1.73 43.05$
 $LAB^*LABa 42.62 -1.73 43.05$
 $LAB^*TCHa 25.01 43.09 92.31$

relative CIELAB lab*
 $lab^*lab 0.447 -0.019 0.499$
 $lab^*tch 0.25 0.5 0.256$
 $lab^*nch 0.5 0.5 0.256$

relative Natural Colour (NC)
 $lab^*lrj 0.447 0.0 0.5$
 $lab^*tce 0.25 0.5 0.25$
 $lab^*nce 0.5 0.5 j99j$

$n^* = 0.00$

blackness n^*

chromaticness c^*

relative Inform. Technology (IT)
 $olvi3^* 0.0 0.0 0.0 (1.0)$
 $cmyn3^* 1.0 1.0 1.0 (0.0)$
 $olvi4^* 1.0 1.0 1.0 0.0$
 $cmyn4^* 0.0 0.0 0.0 1.0$

standard and adapted CIELAB
 $LAB^*LAB 18.02 0.5 -0.47$
 $LAB^*LABa 18.02 0.0 0.0$
 $LAB^*TCHa 0.01 0.01 -$

relative CIELAB lab*
 $lab^*lab 0.0 0.0 0.0$
 $lab^*tch 0.0 0.0 -$
 $lab^*nch 1.0 0.0 -$

relative Natural Colour (NC)
 $lab^*lrj 0.0 0.0 0.0$
 $lab^*tce 0.0 0.0 -$
 $lab^*nce 1.0 0.0 -$

$n^* = 1.0$

3 step scales for constant CIELAB hue 92/360 = 0.255 (right)

input: $olv^* setrgbcolor$

output: $olv^* setrgbcolor / w^* setgray$

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18

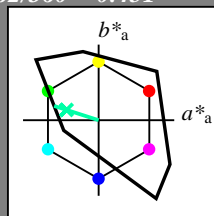
D65: 2 coordinate data of 3 step colour scales for 10 hues

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 162/360 = 0.451$
 lab^*tch and lab^*nch

D65: hue G
 LCH*Ma: 86 62 162
 olv*Ma: 0.0 1.0 0.65

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut
 $u^*_{rel} = 158$
 %Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 0.0 0.0
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 47.72 0.0 0.0
 LAB*LABa 47.72 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

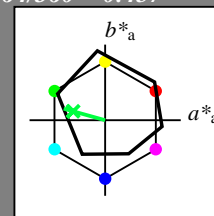
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 164/360 = 0.457$
 lab^*tch and lab^*nch

D65: hue G
 LCH*Ma: 53 57 164
 olv*Ma: 0.0 1.0 0.25

triangle lightness t^*



ORS18; adapted (a) CIELAB data

	L^*	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 -0.98 4.75
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 56.71 -0.24 2.14
 LAB*LABa 56.71 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 18.02 0.5 -0.47
 LAB*LABa 18.02 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olvi3* 0.5 1.0 0.826 (1.0)
 cmyn3* 0.5 0.0 0.174 (0.0)
 olvi4* 0.5 1.0 0.827 1.0
 cmyn4* 0.5 0.0 0.173 0.0

standard and adapted CIELAB
 LAB*LAB 90.57 -29.42 9.43
 LAB*LABa 90.57 -29.42 9.43
 LAB*TCHa 75.0 30.9 162.23

relative CIELAB lab*
 lab*lab 0.949 -0.475 0.153
 lab*tch 0.75 0.5 0.451
 lab*nch 0.0 0.5 0.451

relative Natural Colour (NC)
 lab*lrj 0.949 -0.499 0.0
 lab*tce 0.75 0.5 0.5
 lab*nce 0.0 0.5 g00b

relative Inform. Technology (IT)
 olvi3* 0.0 0.5 0.326 (1.0)
 cmyn3* 1.0 0.5 0.674 (0.0)
 olvi4* 0.5 1.0 0.826 0.5
 cmyn4* 0.5 0.0 0.174 0.5

standard and adapted CIELAB
 LAB*LAB 42.88 -29.42 9.44
 LAB*LABa 42.88 -29.42 9.44
 LAB*TCHa 25.01 30.91 162.22

relative CIELAB lab*
 lab*lab 0.449 -0.475 0.153
 lab*tch 0.25 0.5 0.451
 lab*nch 0.5 0.5 0.451

relative Natural Colour (NC)
 lab*lrj 0.449 -0.499 0.0
 lab*tce 0.25 0.5 0.5
 lab*nce 0.5 0.5 199g

$n^* = 0.50$

blackness n^*
 chromaticness c^*

0.25 0.50 0.75 1.00

relative Inform. Technology (IT)
 olvi3* 0.5 1.0 0.623 (1.0)
 cmyn3* 0.5 0.0 0.377 (0.0)
 olvi4* 0.5 1.0 0.623 1.0
 cmyn4* 0.5 0.0 0.377 0.0

standard and adapted CIELAB
 LAB*LAB 74.1 -27.98 10.94
 LAB*LABa 74.1 -27.4 7.62
 LAB*TCHa 75.0 28.45 164.46

relative CIELAB lab*
 lab*lab 0.725 -0.481 0.134
 lab*tch 0.75 0.5 0.457
 lab*nch 0.0 0.5 0.457

relative Natural Colour (NC)
 lab*lrj 0.725 -0.499 0.0
 lab*tce 0.75 0.5 0.5
 lab*nce 0.0 0.5 g00b

relative Inform. Technology (IT)
 olvi3* 0.0 0.5 0.123 (1.0)
 cmyn3* 1.0 0.5 0.877 (0.0)
 olvi4* 0.5 1.0 0.623 0.5
 cmyn4* 0.5 0.0 0.377 0.5

standard and adapted CIELAB
 LAB*LAB 35.41 -27.24 8.34
 LAB*LABa 35.41 -27.4 7.63
 LAB*TCHa 25.01 28.46 164.44

relative CIELAB lab*
 lab*lab 0.225 -0.481 0.134
 lab*tch 0.25 0.5 0.457
 lab*nch 0.5 0.5 0.457

relative Natural Colour (NC)
 lab*lrj 0.225 -0.499 0.0
 lab*tce 0.25 0.5 0.5
 lab*nce 0.5 0.5 199g

$n^* = 0.00$

blackness n^*
 chromaticness c^*

0.25 0.50 0.75 1.00

NE150-7, 3 step scales for constant CIELAB hue 162/360 = 0.451 (left)

3 step scales for constant CIELAB hue 164/360 = 0.457 (right)

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18
 D65: 2 coordinate data of 3 step colour scales for 10 hues

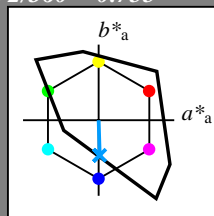
input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$

Input: Colorimetric Television Luminous System TLS00

for hue $h^* = lab^*h = 272/360 = 0.755$
 lab^*tch and lab^*nch

D65: hue B
 LCH*Ma: 65 49 272
 olv*Ma: 0.0 0.61 1.0

triangle lightness t^*



TLS00; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	50.5	76.92	64.55	100.42	40
YMa	92.66	-20.69	90.75	93.08	103
LMa	83.63	-82.75	79.9	115.04	136
CMa	86.88	-46.16	-13.55	48.12	196
VMa	30.39	76.06	-103.59	128.52	306
MMa	57.3	94.35	-58.41	110.97	328
NMa	0.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.74	27.99	65.07	25
JCIE	81.26	-2.88	71.56	71.62	92
GCIE	52.23	-42.41	13.6	44.55	162
BCIE	30.57	1.41	-46.46	46.49	272

%Gamut
 $u^*_{rel} = 158$
 %Regularity
 $g^*_{H,rel} = 20$
 $g^*_{C,rel} = 37$

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 0.0 0.0
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 47.72 0.0 0.0
 LAB*LABa 47.72 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 0.03 0.0 0.0
 LAB*LABa 0.03 0.0 0.0
 LAB*TCHa 0.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

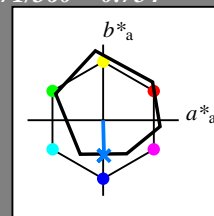
$n^* = 1.0$

Output: Colorimetric Offset Reflective System ORS18

for hue $h^* = lab^*h = 271/360 = 0.754$
 lab^*tch and lab^*nch

D65: hue B
 LCH*Ma: 42 45 271
 olv*Ma: 0.0 0.49 1.0

triangle lightness t^*



ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.39	50.52	82.63	38
YMa	90.37	-10.26	91.75	92.32	96
LMa	50.9	-62.83	34.96	71.91	151
CMa	58.62	-30.34	-45.01	54.3	236
VMa	25.72	31.1	-44.4	54.22	305
MMa	48.13	75.28	-8.36	75.74	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.57	25
JCIE	81.26	-2.16	67.76	67.79	92
GCIE	52.23	-42.25	11.76	43.87	164
BCIE	30.57	1.15	-46.84	46.86	271

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

relative Inform. Technology (IT)
 olvi3* 1.0 1.0 1.0 (1.0)
 cmyn3* 0.0 0.0 0.0 (0.0)
 olvi4* 1.0 1.0 1.0 1.0
 cmyn4* 0.0 0.0 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 95.41 -0.98 4.75
 LAB*LABa 95.41 0.0 0.0
 LAB*TCHa 99.99 0.01 -

relative CIELAB lab*
 lab*lab 1.0 0.0 0.0
 lab*tch 1.0 0.0 -
 lab*nch 0.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 1.0 0.0 0.0
 lab*tce 1.0 0.0 -
 lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.5 0.5 0.5 (1.0)
 cmyn3* 0.5 0.5 0.5 (0.0)
 olvi4* 1.0 1.0 1.0 0.5
 cmyn4* 0.0 0.0 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 56.71 -0.24 2.14
 LAB*LABa 56.71 0.0 0.0
 LAB*TCHa 50.0 0.01 -

relative CIELAB lab*
 lab*lab 0.5 0.0 0.0
 lab*tch 0.5 0.0 -
 lab*nch 0.5 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.5 0.0 0.0
 lab*tce 0.5 0.0 -
 lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
 olvi3* 0.0 0.0 0.0 (1.0)
 cmyn3* 1.0 1.0 1.0 (0.0)
 olvi4* 1.0 1.0 1.0 0.0
 cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
 LAB*LAB 18.02 0.5 -0.47
 LAB*LABa 18.02 0.0 0.0
 LAB*TCHa 18.01 0.01 -

relative CIELAB lab*
 lab*lab 0.0 0.0 0.0
 lab*tch 0.0 0.0 -
 lab*nch 1.0 0.0 -

relative Natural Colour (NC)
 lab*lrj 0.0 0.0 0.0
 lab*tce 0.0 0.0 -
 lab*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
 olvi3* 0.5 0.805 1.0 (1.0)
 cmyn3* 0.5 0.195 0.0 (0.0)
 olvi4* 0.5 0.805 1.0 1.0
 cmyn4* 0.5 0.195 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 80.13 0.73 -24.31
 LAB*LABa 80.13 0.73 -24.31
 LAB*TCHa 75.0 24.33 271.72

relative CIELAB lab*
 lab*lab 0.84 0.015 -0.499
 lab*tch 0.75 0.5 0.755
 lab*nch 0.0 0.5 0.755

relative Natural Colour (NC)
 lab*lrj 0.84 0.0 -0.499
 lab*tce 0.75 0.5 0.75
 lab*nce 0.0 0.5 g99b

relative Inform. Technology (IT)
 olvi3* 0.0 0.305 0.5 (1.0)
 cmyn3* 1.0 0.695 0.5 (0.0)
 olvi4* 0.5 0.805 1.0 0.5
 cmyn4* 0.5 0.195 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 32.44 0.74 -24.32
 LAB*LABa 32.44 0.74 -24.32
 LAB*TCHa 25.01 24.34 271.75

relative CIELAB lab*
 lab*lab 0.34 0.015 -0.499
 lab*tch 0.25 0.5 0.755
 lab*nch 0.5 0.5 0.755

relative Natural Colour (NC)
 lab*lrj 0.34 0.0 -0.499
 lab*tce 0.25 0.5 0.75
 lab*nce 0.5 0.5 b00r

$n^* = 0.50$

$n^* = 0.00$

relative Inform. Technology (IT)
 olvi3* 0.0 0.61 1.0 (1.0)
 cmyn3* 1.0 0.39 0.0 (0.0)
 olvi4* 0.0 0.61 1.0 1.0
 cmyn4* 1.0 0.39 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 64.86 1.47 -48.64
 LAB*LABa 64.86 1.47 -48.64
 LAB*TCHa 50.0 48.67 271.74

relative CIELAB lab*
 lab*lab 0.68 0.03 -0.998
 lab*tch 0.5 1.0 0.755
 lab*nch 0.0 1.0 0.755

relative Natural Colour (NC)
 lab*lrj 0.68 0.0 -0.999
 lab*tce 0.5 1.0 0.75
 lab*nce 0.0 1.0 g99b

$n^* = 0.00$

$n^* = 0.50$

$n^* = 1.00$

chromaticness c^*

relative Inform. Technology (IT)
 olvi3* 0.5 0.744 1.0 (1.0)
 cmyn3* 0.5 0.256 0.0 (0.0)
 olvi4* 0.5 0.744 1.0 1.0
 cmyn4* 0.5 0.256 0.0 0.0

standard and adapted CIELAB
 LAB*LAB 68.6 0.07 -19.39
 LAB*LABa 68.6 0.55 -22.34
 LAB*TCHa 75.0 22.36 271.4

relative CIELAB lab*
 lab*lab 0.654 0.012 -0.499
 lab*tch 0.75 0.5 0.754
 lab*nch 0.0 0.5 0.754

relative Natural Colour (NC)
 lab*lrj 0.654 0.0 -0.499
 lab*tce 0.75 0.5 0.75
 lab*nce 0.0 0.5 g99b

relative Inform. Technology (IT)
 olvi3* 0.0 0.244 0.5 (1.0)
 cmyn3* 1.0 0.756 0.5 (0.0)
 olvi4* 0.5 0.744 1.0 0.5
 cmyn4* 0.5 0.256 0.0 0.5

standard and adapted CIELAB
 LAB*LAB 29.9 0.82 -22.01
 LAB*LABa 29.9 0.55 -22.34
 LAB*TCHa 25.01 22.36 271.42

relative CIELAB lab*
 lab*lab 0.154 0.012 -0.499
 lab*tch 0.25 0.5 0.754
 lab*nch 0.5 0.5 0.754

relative Natural Colour (NC)
 lab*lrj 0.154 0.0 -0.499
 lab*tce 0.25 0.5 0.75
 lab*nce 0.5 0.5 b00r

$n^* = 0.50$

$n^* = 0.00$

chromaticness c^*

NE150-7, 3 step scales for constant CIELAB hue 272/360 = 0.755 (left)

3 step scales for constant CIELAB hue 271/360 = 0.754 (right)

BAM-test chart NE15; Colorimetric systems TLS00 & ORS18
 D65: 2 coordinate data of 3 step colour scales for 10 hues

input: $olv^* setrgbcolor$
 output: $olv^* setrgbcolor / w^* setgray$