

Input: Colorimetric Reflective System NRS11

for hue $h^* = lab^*h = 24/360 = 0.067$

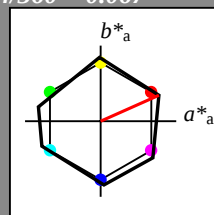
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 53 84 24

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

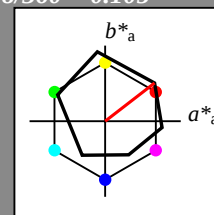
lab^*tch and lab^*nch

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

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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 -0.97 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 -0.23 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 -0.46
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 -

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

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

relative Natural Colour (NC)
lab*lrj 0.693 0.477 0.15
lab*tce 0.75 0.5 0.048
lab*nce 0.0 0.5 r19j

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

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

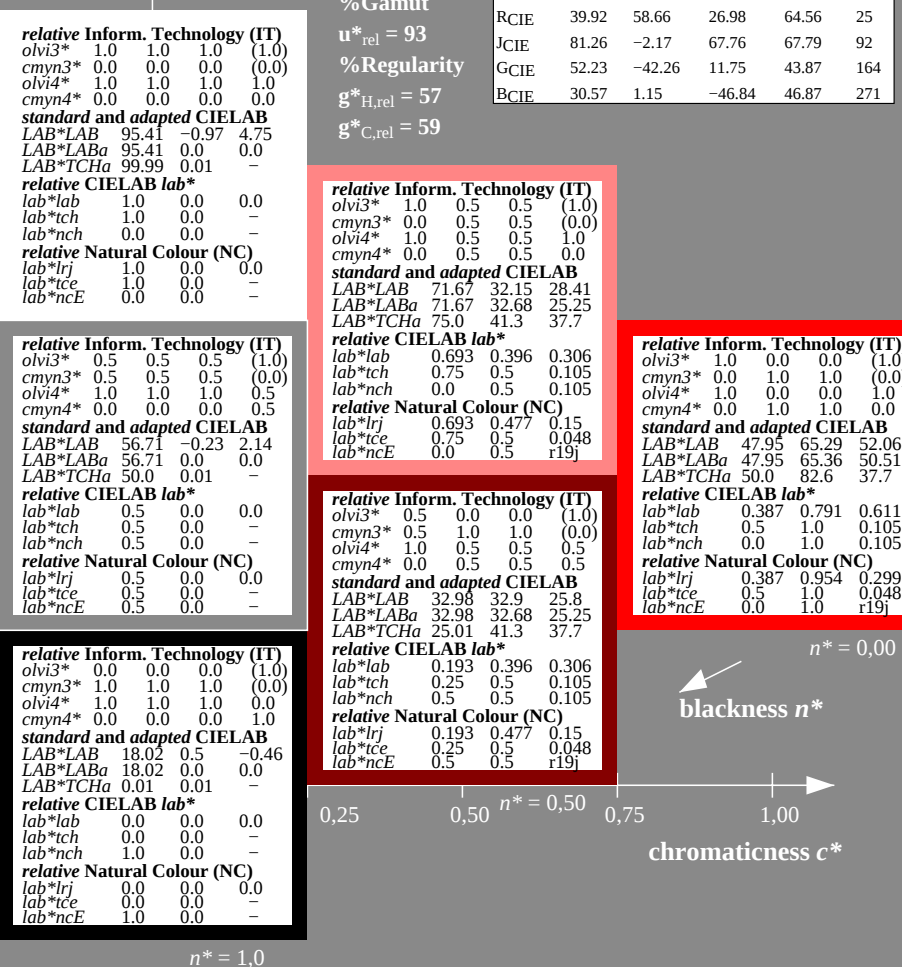
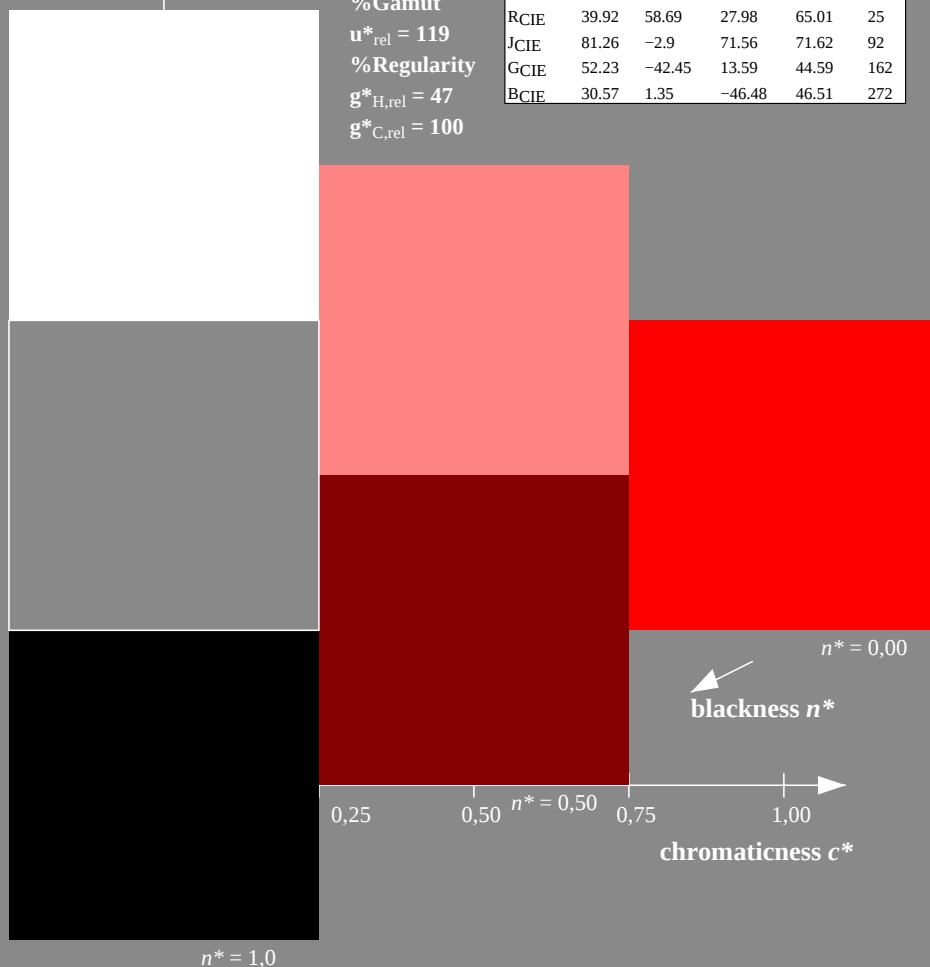
relative Natural Colour (NC)
lab*lrj 0.193 0.477 0.15
lab*tce 0.25 0.5 0.048
lab*nce 0.5 0.5 r19j

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

standard and adapted CIELAB
LAB*LAB 47.95 65.29 52.06
LAB*LABa 47.95 65.36 50.51
LAB*TCHa 50.0 82.6 37.7

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

relative Natural Colour (NC)
lab*lrj 0.387 0.954 0.299
lab*tce 0.5 1.0 0.048
lab*nce 0.0 1.0 r19j



UE070-7, 3 step scales for constant CIELAB hue 24/360 = 0.067 (left)

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

BAM-test chart UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: $cmY0^* setcmykcolor$

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

Input: Colorimetric Reflective System NRS11

for hue $h^* = lab^*h = 91/360 = 0.253$

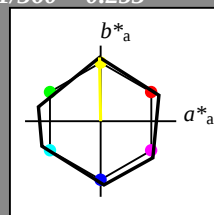
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 53 84 91

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

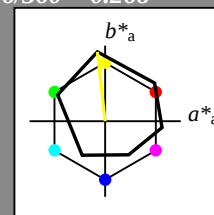
lab^*tch and lab^*nch

D65: hue Y

LCH*Ma: 90 92 96

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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
 $LAB^*LAB = 95.41 \ -0.97 \ 4.75$
 $LAB^*LABa = 95.41 \ 0.0 \ 0.0$
 $LAB^*TCHa = 99.99 \ 0.01 \ -$

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
 $LAB^*LAB = 56.71 \ -0.23 \ 2.14$
 $LAB^*LABa = 56.71 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

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
 $LAB^*LAB = 18.02 \ 0.5 \ -0.46$
 $LAB^*LABa = 18.02 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

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)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

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
 $LAB^*LAB = 92.88 \ -6.06 \ 50.46$
 $LAB^*LABa = 92.88 \ -5.13 \ 45.87$
 $LAB^*TCHa = 75.0 \ 46.16 \ 96.39$

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)
 $lab^*lrj = 0.967 \ -0.048 \ 0.497$
 $lab^*tce = 0.75 \ 0.5 \ 0.266$
 $lab^*nce = 0.0 \ 0.5 \ j06g$

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
 $LAB^*LAB = 54.19 \ -5.32 \ 47.85$
 $LAB^*LABa = 54.19 \ -5.13 \ 45.87$
 $LAB^*TCHa = 25.01 \ 46.16 \ 96.39$

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)
 $lab^*lrj = 0.467 \ -0.048 \ 0.497$
 $lab^*tce = 0.25 \ 0.5 \ 0.266$
 $lab^*nce = 0.5 \ 0.5 \ j06g$

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

standard and adapted CIELAB
 $LAB^*LAB = 90.37 \ -11.15 \ 96.17$
 $LAB^*LABa = 90.37 \ -10.26 \ 91.75$
 $LAB^*TCHa = 50.0 \ 92.32 \ 96.39$

relative CIELAB lab*
 $lab^*lab = 0.935 \ -0.11 \ 0.994$
 $lab^*tch = 0.5 \ 1.0 \ 0.268$
 $lab^*nch = 0.0 \ 1.0 \ 0.268$

relative Natural Colour (NC)
 $lab^*lrj = 0.935 \ -0.097 \ 0.995$
 $lab^*tce = 0.5 \ 1.0 \ 0.266$
 $lab^*nce = 0.0 \ 1.0 \ j06g$

Input: Colorimetric Reflective System NRS11

for hue $h^* = lab^*h = 167/360 = 0.464$

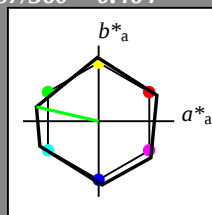
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 53 84 167

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

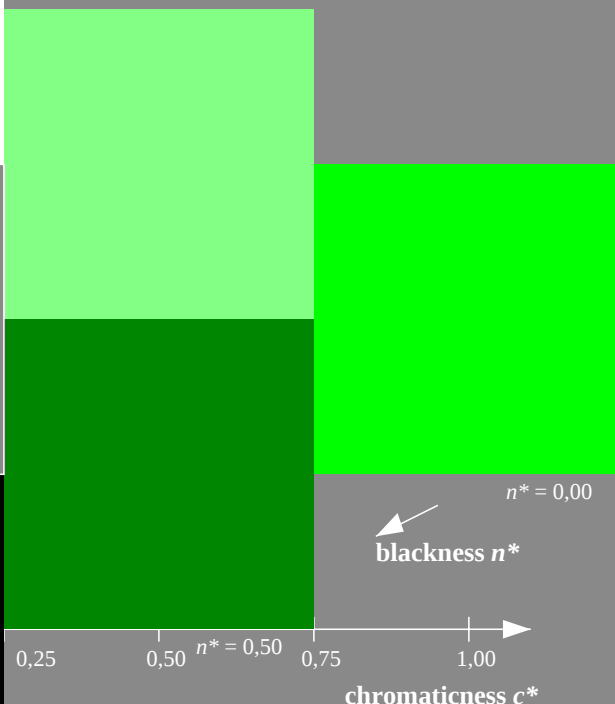
%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$



Output: Colorimetric Reflective System ORS18

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

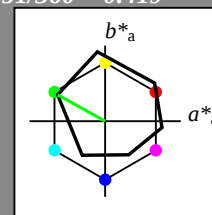
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 51 72 151

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	271

%Gamut

$u^*_{rel} = 93$

%Regularity

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

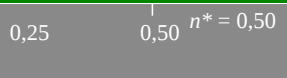
$g^*_{C,rel} = 59$

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	-0.97	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	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	-31.94	20.73	
LAB*LABa	73.15	-31.38	17.47	
LAB*TCHa	75.0	35.93	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	0.419	

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	-31.2	18.11	
LAB*LABa	34.46	-31.38	17.47	
LAB*TCHa	25.01	35.93	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	0.419	

relative Inform. Technology (IT)				
olvi3*	0.0	1.0	0.0	(1.0)
cmyn3*	1.0	0.0	1.0	(0.0)
olvi4*	0.0	1.0	0.0	1.0
cmyn4*	1.0	0.0	1.0	0.0
standard and adapted CIELAB				
LAB*LAB	50.9	-62.91	36.69	
LAB*LABa	50.9	-62.78	34.94	
LAB*TCHa	50.0	71.86	150.91	
relative CIELAB lab*				
lab*lab	0.425	-0.873	0.486	
lab*tch	0.5	1.0	0.419	
lab*nch	0.0	1.0	0.419	
relative Natural Colour (NC)				
lab*lrj	0.425	-0.956	0.289	
lab*tce	0.5	1.0	0.453	
lab*nce	0.0	1.0	0.419	



BAM-test chart UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

3 step scales for constant CIELAB hue 151/360 = 0.419 (right)

input: $cmv0^* setcmykcolor$

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

Input: Colorimetric Reflective System NRS11

for hue $h^* = lab^*h = 203/360 = 0.564$

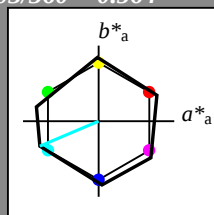
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 53 84 203

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

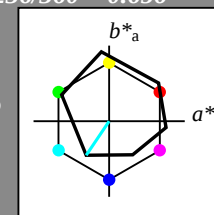
lab^*tch and lab^*nch

D65: hue C

LCH*Ma: 59 54 236

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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
 $LAB^*LAB = 95.41 \ -0.97 \ 4.75$
 $LAB^*LABa = 95.41 \ 0.0 \ 0.0$
 $LAB^*TCHa = 99.99 \ 0.01 \ -$

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
 $LAB^*LAB = 56.71 \ -0.23 \ 2.14$
 $LAB^*LABa = 56.71 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

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
 $LAB^*LAB = 18.02 \ 0.5 \ -0.46$
 $LAB^*LABa = 18.02 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

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)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

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
 $LAB^*LAB = 77.01 \ -15.79 \ -18.98$
 $LAB^*LABa = 77.01 \ -15.16 \ -22.5$
 $LAB^*TCHa = 75.0 \ 27.15 \ 236.01$

relative CIELAB lab*
 $lab^*lab = 0.762 \ -0.278 \ -0.413$
 $lab^*tch = 0.75 \ 0.5 \ 0.656$
 $lab^*nch = 0.0 \ 0.5 \ 0.656$

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
 $LAB^*LAB = 38.32 \ -15.05 \ -21.59$
 $LAB^*LABa = 38.32 \ -15.16 \ -22.5$
 $LAB^*TCHa = 25.01 \ 27.15 \ 236.01$

relative CIELAB lab*
 $lab^*lab = 0.262 \ -0.278 \ -0.413$
 $lab^*tch = 0.25 \ 0.5 \ 0.656$
 $lab^*nch = 0.5 \ 0.5 \ 0.656$

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

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
 $LAB^*LAB = 58.62 \ -30.62 \ -42.73$
 $LAB^*LABa = 58.62 \ -30.34 \ -45.01$
 $LAB^*TCHa = 50.0 \ 54.29 \ 236.01$

relative CIELAB lab*
 $lab^*lab = 0.525 \ -0.558 \ -0.828$
 $lab^*tch = 0.5 \ 1.0 \ 0.656$
 $lab^*nch = 0.0 \ 1.0 \ 0.656$

relative Natural Colour (NC)
 $lab^*lrj = 0.525 \ -0.496 \ -0.867$
 $lab^*tce = 0.5 \ 1.0 \ 0.667$
 $lab^*nce = 0.0 \ 1.0 \ g66b$

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

UE070-7, 3 step scales for constant CIELAB hue 203/360 = 0.564 (left)

BAM-test chart UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: $cmv0^* \ setcmykcolor$

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

Input: Colorimetric Reflective System NRS11

for hue $h^* = lab^*h = 273/360 = 0.758$

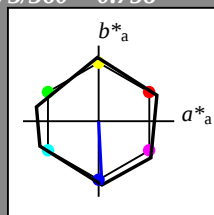
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 53 84 273

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

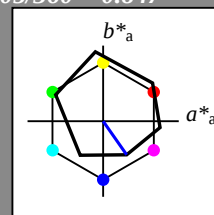
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 26 54 305

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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 -0.97 4.75
LAB*LABa 95.41 0.0 0.0
LAB*TCa 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 -0.23 2.14
LAB*LABa 56.71 0.0 0.0
LAB*TCa 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 -0.46
LAB*LABa 18.02 0.0 0.0
LAB*TCa 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 -

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

standard and adapted CIELAB
LAB*LAB 60.56 15.24 -19.79
LAB*LABa 60.56 15.55 -22.2
LAB*TCa 75.0 27.11 305.0

relative CIELAB lab*
lab*lab 0.55 0.287 -0.408
lab*tch 0.75 0.5 0.847
lab*nch 0.0 0.5 0.847

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

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

standard and adapted CIELAB
LAB*LAB 21.87 15.98 -22.4
LAB*LABa 21.87 15.55 -22.2
LAB*TCa 25.01 27.11 305.0

relative CIELAB lab*
lab*lab 0.05 0.287 -0.408
lab*tch 0.25 0.5 0.847
lab*nch 0.5 0.5 0.847

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

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

standard and adapted CIELAB
LAB*LAB 25.72 31.46 -44.36
LAB*LABa 25.72 31.1 -44.41
LAB*TCa 50.0 54.23 305.0

relative CIELAB lab*
lab*lab 0.1 0.573 -0.818
lab*tch 0.5 1.0 0.847
lab*nch 0.0 1.0 0.847

relative Natural Colour (NC)
lab*lrj 0.1 0.449 -0.892
lab*tce 0.5 1.0 0.824
lab*nce 0.0 1.0 b29r

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

standard and adapted CIELAB
LAB*LAB 21.87 15.98 -22.4
LAB*LABa 21.87 15.55 -22.2
LAB*TCa 25.01 27.11 305.0

relative CIELAB lab*
lab*lab 0.05 0.287 -0.408
lab*tch 0.25 0.5 0.847
lab*nch 0.5 0.5 0.847

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

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

standard and adapted CIELAB
LAB*LAB 25.72 31.46 -44.36
LAB*LABa 25.72 31.1 -44.41
LAB*TCa 50.0 54.23 305.0

relative CIELAB lab*
lab*lab 0.1 0.573 -0.818
lab*tch 0.5 1.0 0.847
lab*nch 0.0 1.0 0.847

relative Natural Colour (NC)
lab*lrj 0.1 0.449 -0.892
lab*tce 0.5 1.0 0.824
lab*nce 0.0 1.0 b29r

3 step scales for constant CIELAB hue 305/360 = 0.847 (right)

UE070-7, 3 step scales for constant CIELAB hue 273/360 = 0.758 (left)

BAM-test chart UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: `cmv0* setcmvcolor`

output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Reflective System NRS11

for hue $h^* = lab^*h = 325/360 = 0.903$

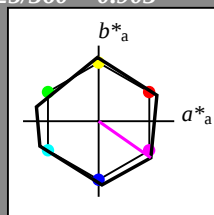
lab^*tch and lab^*nch

D65: hue B50R

LCH*Ma: 53 84 325

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

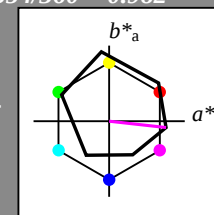
lab^*tch and lab^*nch

D65: hue M

LCH*Ma: 48 76 354

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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 -0.97 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 -0.23 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 -0.46
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 -

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

standard and adapted CIELAB
LAB*LAB 33.08 37.84 -3.62
LAB*LABa 33.08 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

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

standard and adapted CIELAB
LAB*LAB 48.14 75.18 -6.78
LAB*LABa 48.14 75.25 -8.35
LAB*TCHa 50.0 75.71 353.66

relative CIELAB lab*
lab*lab 0.389 0.994 -0.109
lab*tch 0.5 1.0 0.982
lab*nch 0.0 1.0 0.982

relative Natural Colour (NC)
lab*lrj 0.389 0.909 -0.416
lab*tce 0.5 1.0 0.932
lab*nce 0.0 1.0 b72r

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

standard and adapted CIELAB
LAB*LAB 33.08 37.84 -3.62
LAB*LABa 33.08 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

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

standard and adapted CIELAB
LAB*LAB 48.14 75.18 -6.78
LAB*LABa 48.14 75.25 -8.35
LAB*TCHa 50.0 75.71 353.66

relative CIELAB lab*
lab*lab 0.389 0.994 -0.109
lab*tch 0.5 1.0 0.982
lab*nch 0.0 1.0 0.982

relative Natural Colour (NC)
lab*lrj 0.389 0.909 -0.416
lab*tce 0.5 1.0 0.932
lab*nce 0.0 1.0 b72r

UE070-7, 3 step scales for constant CIELAB hue 325/360 = 0.903 (left)

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

BAM-test chart UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: $cmY0^* setcmykcolor$

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

Input: Colorimetric Reflective System NRS11

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

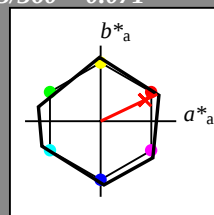
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 53 83 25

olv*Ma: 1.0 0.03 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

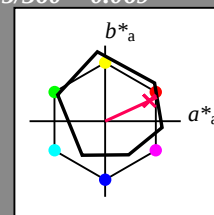
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 75 25

olv*Ma: 1.0 0.0 0.32

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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 -0.97 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 -0.23 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 -0.46
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 -

relative Inform. Technology (IT)
olvi3* 1.0 0.5 0.661 (1.0)
cmyn3* 0.0 0.5 0.339 (0.0)
olvi4* 1.0 0.5 0.661 1.0
cmyn4* 0.0 0.5 0.339 0.0
standard and adapted CIELAB
LAB*LAB 71.7 33.75 18.92
LAB*LABa 71.7 34.27 15.76
LAB*TCHa 75.0 37.72 24.69

relative CIELAB lab*
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 0.694 0.5 0.0
lab*tce 0.75 0.5 1.0
lab*nce 0.0 0.5 0.99r

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.161 (1.0)
cmyn3* 0.5 1.0 0.839 (0.0)
olvi4* 1.0 0.5 0.661 0.5
cmyn4* 0.0 0.5 0.339 0.5
standard and adapted CIELAB
LAB*LAB 33.01 34.49 16.31
LAB*LABa 33.01 34.27 15.77
LAB*TCHa 25.01 37.73 24.7

relative CIELAB lab*
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 0.194 0.5 0.0
lab*tce 0.25 0.5 0.0
lab*nce 0.5 0.5 0.00j

relative Inform. Technology (IT)
olvi3* 1.0 0.0 0.322 (1.0)
cmyn3* 0.0 1.0 0.678 (0.0)
olvi4* 1.0 0.0 0.323 1.0
cmyn4* 0.0 1.0 0.677 0.0
standard and adapted CIELAB
LAB*LAB 48.01 68.48 33.09
LAB*LABa 48.01 68.55 31.53
LAB*TCHa 50.0 75.45 24.7

relative CIELAB lab*
lab*lab 0.388 0.908 0.418
lab*tch 0.5 1.0 0.069
lab*nch 0.0 1.0 0.069

relative Natural Colour (NC)
lab*lrj 0.388 1.0 0.0
lab*tce 0.5 1.0 0.0
lab*nce 0.0 1.0 0.00j

UE070-7, 3 step scales for constant CIELAB hue 25/360 = 0.071 (left)

3 step scales for constant CIELAB hue 25/360 = 0.069 (right)

BAM-test chart UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: $cmY0^* setcmykcolor$

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

Input: Colorimetric Reflective System NRS11

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

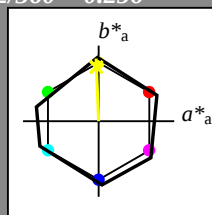
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 53 83 92

olv*Ma: 0.98 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

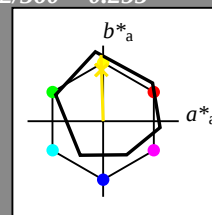
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 86 88 92

olv*Ma: 1.0 0.9 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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
 $LAB^*LAB = 95.41 \ -0.97 \ 4.75$
 $LAB^*LABa = 95.41 \ 0.0 \ 0.0$
 $LAB^*TCHa = 99.99 \ 0.01 \ -$

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
 $LAB^*LAB = 56.71 \ -0.23 \ 2.14$
 $LAB^*LABa = 56.71 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

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
 $LAB^*LAB = 18.02 \ 0.5 \ -0.46$
 $LAB^*LABa = 18.02 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

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)
 $lab^*lrj = 0.0 \ 0.0 \ 0.0$
 $lab^*tce = 0.0 \ 0.0 \ -$
 $lab^*nce = 1.0 \ 0.0 \ -$

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
 $LAB^*LAB = 90.8 \ -2.3 \ 48.29$
 $LAB^*LABa = 90.8 \ -1.41 \ 43.85$
 $LAB^*TCHa = 75.0 \ 43.87 \ 91.85$

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)
 $lab^*lrj = 0.94 \ 0.0 \ 0.5$
 $lab^*tce = 0.75 \ 0.5 \ 0.25$
 $lab^*nce = 0.0 \ 0.5 \ 1.0$

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
 $LAB^*LAB = 52.1 \ -1.55 \ 45.68$
 $LAB^*LABa = 52.1 \ -1.4 \ 43.84$
 $LAB^*TCHa = 25.01 \ 43.87 \ 91.84$

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)
 $lab^*lrj = 0.44 \ 0.0 \ 0.5$
 $lab^*tce = 0.25 \ 0.5 \ 0.25$
 $lab^*nce = 0.5 \ 0.5 \ 1.0$

relative Inform. Technology (IT)
 $olvi3^* = 1.0 \ 0.901 \ 0.0 \ (1.0)$
 $cmyn3^* = 0.0 \ 0.099 \ 1.0 \ (0.0)$
 $olvi4^* = 1.0 \ 0.902 \ 0.0 \ 1.0$
 $cmyn4^* = 0.0 \ 0.098 \ 1.0 \ 0.0$

standard and adapted CIELAB
 $LAB^*LAB = 86.19 \ -3.62 \ 91.83$
 $LAB^*LABa = 86.19 \ -2.82 \ 87.69$
 $LAB^*TCHa = 50.0 \ 87.73 \ 91.85$

relative CIELAB lab*
 $lab^*lab = 0.881 \ -0.031 \ 0.999$
 $lab^*tch = 0.5 \ 1.0 \ 0.255$
 $lab^*nch = 0.0 \ 1.0 \ 0.255$

relative Natural Colour (NC)
 $lab^*lrj = 0.881 \ 0.0 \ 1.0$
 $lab^*tce = 0.5 \ 1.0 \ 0.25$
 $lab^*nce = 0.0 \ 1.0 \ 1.0$

relative Inform. Technology (IT)
 $olvi3^* = 0.44 \ 0.0 \ 0.5$
 $cmyn3^* = 0.25 \ 0.5 \ 0.255$
 $olvi4^* = 0.5 \ 0.5 \ 0.255$
 $cmyn4^* = 0.0 \ 0.049 \ 0.5 \ 0.5$

standard and adapted CIELAB
 $LAB^*LAB = 52.1 \ -1.55 \ 45.68$
 $LAB^*LABa = 52.1 \ -1.4 \ 43.84$
 $LAB^*TCHa = 25.01 \ 43.87 \ 91.84$

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)
 $lab^*lrj = 0.44 \ 0.0 \ 0.5$
 $lab^*tce = 0.25 \ 0.5 \ 0.25$
 $lab^*nce = 0.5 \ 0.5 \ 1.0$

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
 $LAB^*LAB = 52.1 \ -1.55 \ 45.68$
 $LAB^*LABa = 52.1 \ -1.4 \ 43.84$
 $LAB^*TCHa = 25.01 \ 43.87 \ 91.84$

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)
 $lab^*lrj = 0.44 \ 0.0 \ 0.5$
 $lab^*tce = 0.25 \ 0.5 \ 0.25$
 $lab^*nce = 0.5 \ 0.5 \ 1.0$

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

input: $cmv0^* \ setcmykcolor$

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

UE070-7, 3 step scales for constant CIELAB hue 92/360 = 0.256 (left)

BAM-test chart UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

Input: Colorimetric Reflective System NRS11

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

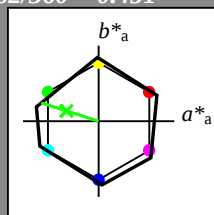
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 53 80 162

olv*Ma: 0.08 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

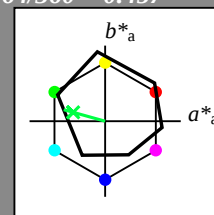
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 53 57 164

olv*Ma: 0.0 1.0 0.25

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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 -0.97 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 -0.23 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 -0.46
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 -

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 -27.96 10.94
LAB*LABa 74.1 -27.39 7.62
LAB*TCHa 75.0 28.44 164.46

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 -27.22 8.34
LAB*LABa 35.41 -27.39 7.63
LAB*TCHa 25.01 28.44 164.45

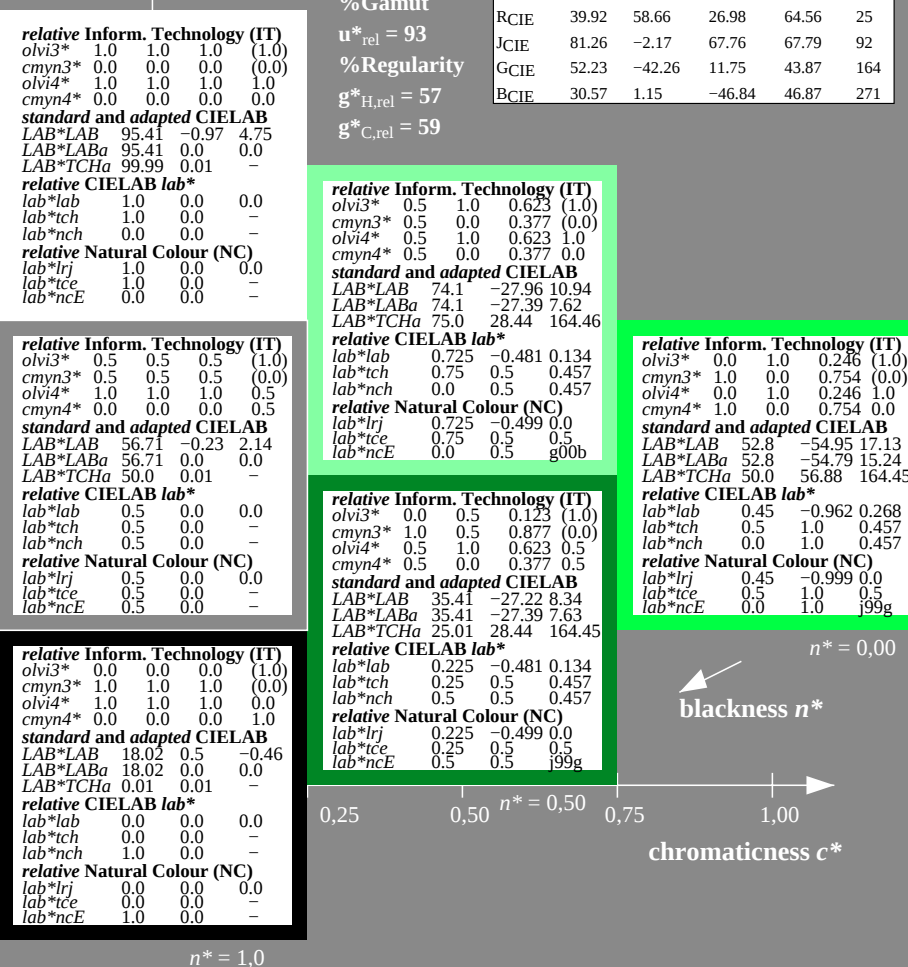
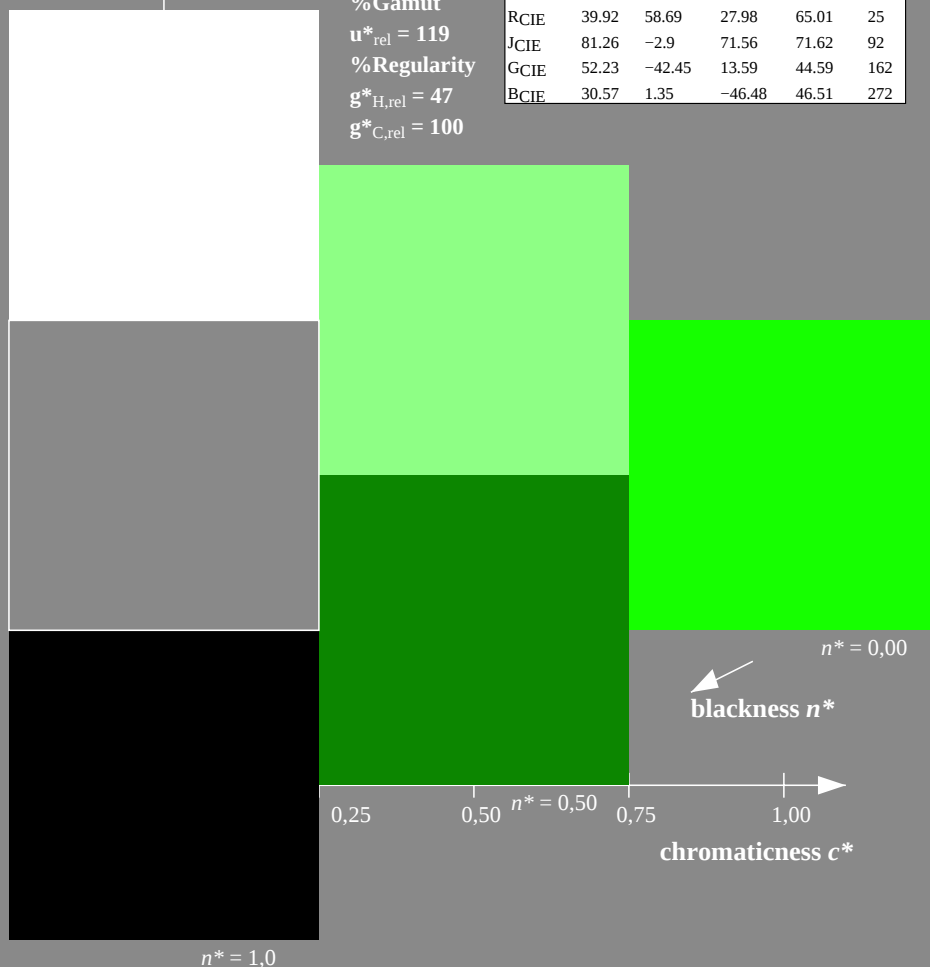
relative CIELAB lab*
lab*lab 0.225 -0.481 0.134
lab*tch 0.25 0.5 0.457
lab*nch 0.5 0.5 0.457

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 g99g

relative Inform. Technology (IT)
olvi3* 0.0 1.0 0.246 (1.0)
cmyn3* 1.0 0.0 0.754 (0.0)
olvi4* 0.0 1.0 0.246 1.0
cmyn4* 1.0 0.0 0.754 0.0
standard and adapted CIELAB
LAB*LAB 52.8 -54.95 17.13
LAB*LABa 52.8 -54.79 15.24
LAB*TCHa 50.0 56.88 164.45

relative CIELAB lab*
lab*lab 0.45 -0.962 0.268
lab*tch 0.5 1.0 0.457
lab*nch 0.0 1.0 0.457

relative Natural Colour (NC)
lab*lrj 0.45 -0.999 0.0
lab*tce 0.5 1.0 0.5
lab*nce 0.0 1.0 g99g



UE070-7, 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 UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: `cmv0* setcmvcolor`

output: `olv* setrgbcolor / w* setgray`

Input: Colorimetric Reflective System NRS11

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

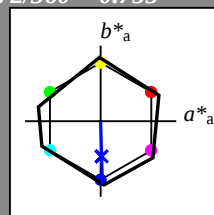
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 53 83 272

olv*Ma: 0.0 0.02 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 119$

%Regularity

$g^*_{H,rel} = 47$

$g^*_{C,rel} = 100$

NRS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	53.2	77.06	34.32	84.36	24
JMa	53.2	-1.51	84.38	84.39	91
GMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
BMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	325
NMa	10.99	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.69	27.98	65.01	25
JCIE	81.26	-2.9	71.56	71.62	92
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

Output: Colorimetric Reflective System ORS18

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

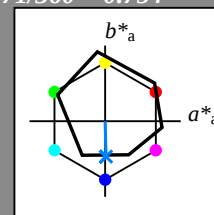
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 42 45 271

olv*Ma: 0.0 0.49 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 93$

%Regularity

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

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

ORS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	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	64.56	25
JCIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	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 -0.97 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 -0.23 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 -0.46
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 -

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 68.59 0.08 -19.4
LAB*LABa 68.59 0.54 -22.35
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 0.83 -22.01
LAB*LABa 29.9 0.55 -22.35
LAB*TCHa 25.01 22.36 271.41

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

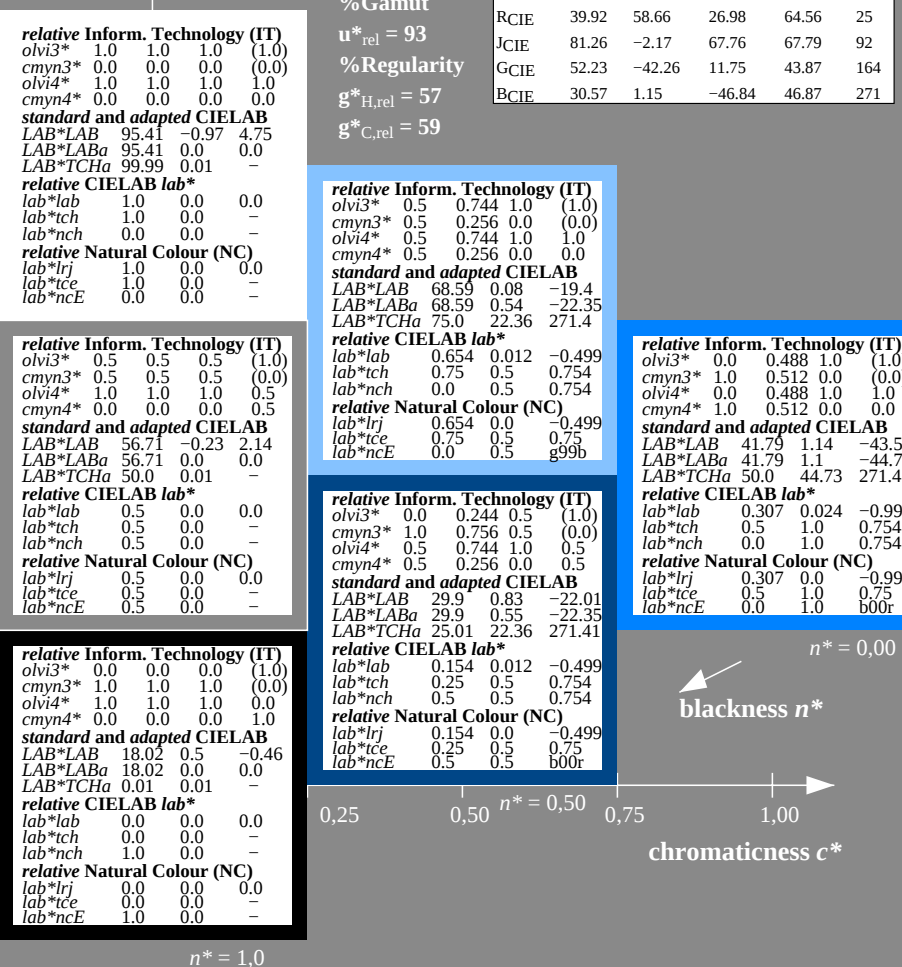
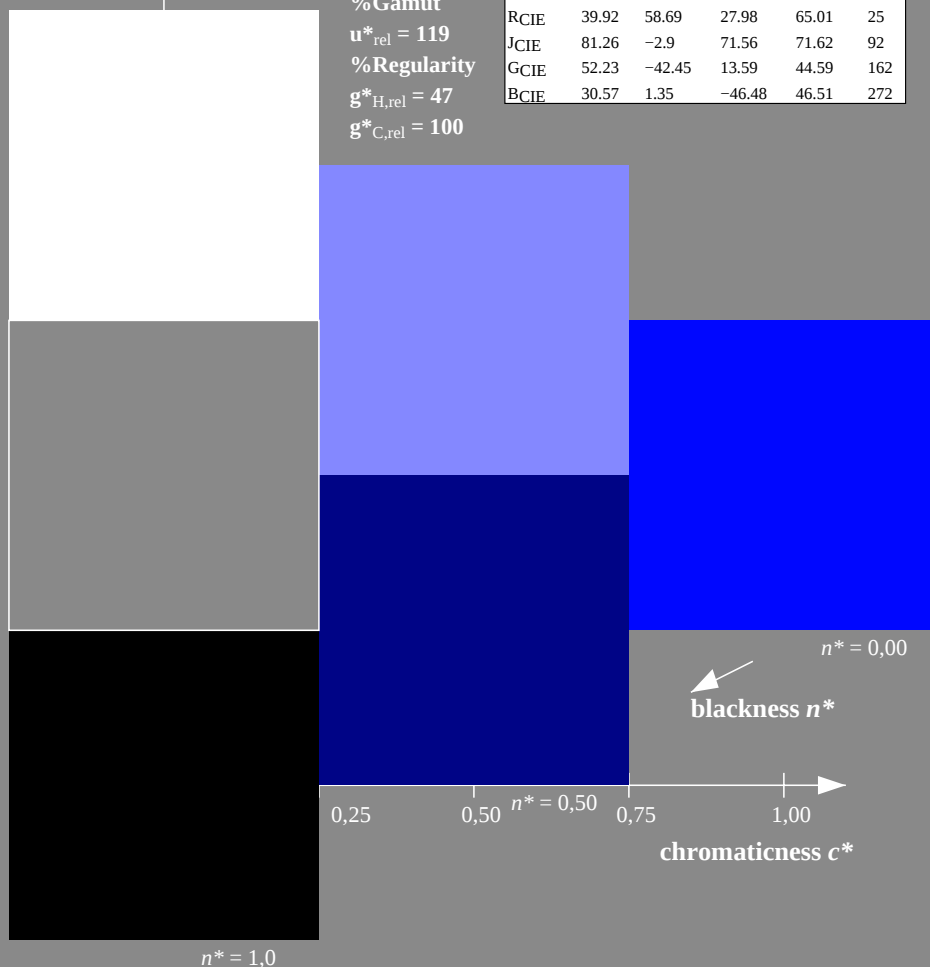
relative Natural Colour (NC)
lab*lrj 0.154 0.0 -0.499
lab*tce 0.25 0.5 0.75
lab*nce 0.5 0.5 b00r

relative Inform. Technology (IT)
olvi3* 0.0 0.488 1.0 (1.0)
cmyn3* 1.0 0.512 0.0 (0.0)
olvi4* 0.0 0.488 1.0 1.0
cmyn4* 1.0 0.512 0.0 0.0

standard and adapted CIELAB
LAB*LAB 41.79 1.14 -43.56
LAB*LABa 41.79 1.1 -44.7
LAB*TCHa 50.0 44.73 271.4

relative CIELAB lab*
lab*lab 0.307 0.024 -0.998
lab*tch 0.5 1.0 0.754
lab*nch 0.0 1.0 0.754

relative Natural Colour (NC)
lab*lrj 0.307 0.0 -0.999
lab*tce 0.5 1.0 0.75
lab*nce 0.0 1.0 b00r



UE070-7, 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 UE07; Colorimetric systems NRS11 & ORS18

D65: 3 step colour scales and coordinate data for 10 hues

input: $cmY0^* setcmykcolor$

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