

Input: Colorimetric Reflective System ORS18

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

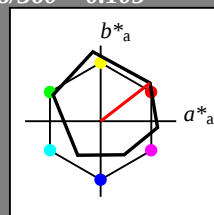
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

for hue $h^* = lab^*h = 31/360 = 0.086$

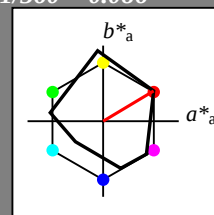
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 50 78 31

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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
 $LAB^*LAB = 95.41$ 0.01 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
 $LAB^*LAB = 56.71$ 0.05 0.0
 $LAB^*LABa = 56.71$ 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
 $LAB^*LAB = 18.02$ 0.1 0.02
 $LAB^*LABa = 18.02$ 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
 $LAB^*LAB = 72.52$ 33.43 20.01
 $LAB^*LABa = 72.52$ 33.39 20.01
 $LAB^*TCHa = 75.0$ 38.93 30.93

relative CIELAB lab*
 $lab^*lab = 0.704$ 0.429 0.257
 $lab^*tch = 0.75$ 0.5 0.086
 $lab^*nch = 0.0$ 0.5 0.086

relative Natural Colour (NC)
 $lab^*lrj = 0.704$ 0.496 0.064
 $lab^*tce = 0.75$ 0.5 0.02
 $lab^*nce = 0.0$ 0.5 0.086

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

relative CIELAB lab*
 $lab^*lab = 0.204$ 0.429 0.257
 $lab^*tch = 0.25$ 0.5 0.086
 $lab^*nch = 0.5$ 0.5 0.086

relative Natural Colour (NC)
 $lab^*lrj = 0.204$ 0.496 0.064
 $lab^*tce = 0.25$ 0.5 0.02
 $lab^*nce = 0.5$ 0.5 0.086

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

relative CIELAB lab*
 $lab^*lab = 0.409$ 0.858 0.514
 $lab^*tch = 0.5$ 1.0 0.086
 $lab^*nch = 0.0$ 1.0 0.086

relative Natural Colour (NC)
 $lab^*lrj = 0.409$ 0.992 0.128
 $lab^*tce = 0.5$ 1.0 0.02
 $lab^*nce = 0.0$ 1.0 0.086

Input: Colorimetric Reflective System ORS18

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

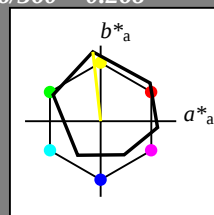
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

for hue $h^* = lab^*h = 94/360 = 0.262$

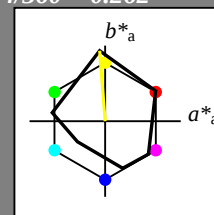
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 91 93 94

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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
 $LAB^*LAB = 95.41 \ 0.01 \ 0.0$
 $LAB^*LABa = 95.41 \ 0.0 \ 0.0$
 $LAB^*TCHa = 99.99 \ 0.01 \ -$

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
 $LAB^*LAB = 56.71 \ 0.05 \ 0.0$
 $LAB^*LABa = 56.71 \ 0.0 \ 0.0$
 $LAB^*TCHa = 50.0 \ 0.01 \ -$

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
 $LAB^*LAB = 18.02 \ 0.1 \ 0.02$
 $LAB^*LABa = 18.02 \ 0.0 \ 0.0$
 $LAB^*TCHa = 0.01 \ 0.01 \ -$

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
 $LAB^*LAB = 93.05 \ -3.61 \ 46.59$
 $LAB^*LABa = 93.05 \ -3.63 \ 46.59$
 $LAB^*TCHa = 75.0 \ 46.73 \ 94.46$

relative CIELAB lab*
 $lab^*lab = 0.969 \ -0.038 \ 0.498$
 $lab^*tch = 0.75 \ 0.5 \ 0.262$
 $lab^*nch = 0.0 \ 0.5 \ 0.262$

relative Natural Colour (NC)
 $lab^*lrj = 0.969 \ -0.023 \ 0.499$
 $lab^*tce = 0.75 \ 0.5 \ 0.258$
 $lab^*nce = 0.0 \ 0.5 \ j03g$

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
 $LAB^*LAB = 54.35 \ -3.57 \ 46.6$
 $LAB^*LABa = 54.35 \ -3.63 \ 46.59$
 $LAB^*TCHa = 25.01 \ 46.73 \ 94.46$

relative CIELAB lab*
 $lab^*lab = 0.47 \ -0.038 \ 0.498$
 $lab^*tch = 0.25 \ 0.5 \ 0.262$
 $lab^*nch = 0.5 \ 0.5 \ 0.262$

relative Natural Colour (NC)
 $lab^*lrj = 0.47 \ -0.023 \ 0.499$
 $lab^*tce = 0.25 \ 0.5 \ 0.258$
 $lab^*nce = 0.5 \ 0.5 \ j03g$

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
 $LAB^*LAB = 90.69 \ -7.25 \ 93.17$
 $LAB^*LABa = 90.69 \ -7.26 \ 93.18$
 $LAB^*TCHa = 50.0 \ 93.46 \ 94.46$

relative CIELAB lab*
 $lab^*lab = 0.939 \ -0.077 \ 0.997$
 $lab^*tch = 0.5 \ 1.0 \ 0.262$
 $lab^*nch = 0.0 \ 1.0 \ 0.262$

relative Natural Colour (NC)
 $lab^*lrj = 0.939 \ -0.047 \ 0.999$
 $lab^*tce = 0.5 \ 1.0 \ 0.258$
 $lab^*nce = 0.0 \ 1.0 \ j03g$

TE010-7, 3 step scales for constant CIELAB hue 96/360 = 0.268 (left)

3 step scales for constant CIELAB hue 94/360 = 0.262 (right)

BAM-test chart TE01; Colorimetric systems ORS18 & MRS18a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System ORS18

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

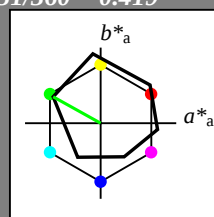
lab^*tch and lab^*nch

D65: hue L

LCH*Ma: 51 72 151

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



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

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

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

Output: Colorimetric Reflective System MRS18a

for hue $h^* = lab^*h = 171/360 = 0.475$

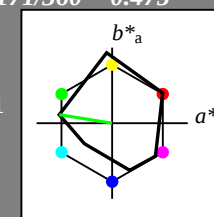
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 52 71 171

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



MRS18a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

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 0.01 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 56.71 0.05 0.0
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 0.1 0.02
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 0.5 (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 73.75 -34.92 5.64
LAB*LABa 73.75 -34.96 5.63
LAB*TCHa 75.0 35.42 170.85

relative CIELAB lab*
lab*lab 0.72 -0.493 0.079
lab*tch 0.75 0.5 0.475
lab*nch 0.0 0.5 0.475

relative Natural Colour (NC)
lab*lrj 0.72 -0.495 -0.06
lab*tce 0.75 0.5 0.52
lab*nce 0.0 0.5 g07b

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 35.06 -34.88 5.65
LAB*LABa 35.06 -34.96 5.63
LAB*TCHa 25.01 35.42 170.85

relative CIELAB lab*
lab*lab 0.22 -0.493 0.079
lab*tch 0.25 0.5 0.475
lab*nch 0.5 0.5 0.475

relative Natural Colour (NC)
lab*lrj 0.22 -0.495 -0.06
lab*tce 0.25 0.5 0.52
lab*nce 0.5 0.5 g07b

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 52.11 -69.86 11.28
LAB*LABa 52.11 -69.92 11.26
LAB*TCHa 50.0 70.83 170.85

relative CIELAB lab*
lab*lab 0.441 -0.986 0.159
lab*tch 0.5 1.0 0.475
lab*nch 0.0 1.0 0.475

relative Natural Colour (NC)
lab*lrj 0.441 -0.991 -0.122
lab*tce 0.5 1.0 0.52
lab*nce 0.0 1.0 g07b

relative Inform. Technology (IT)
olvi3* 0.0 0.5 0.0 (1.0)
cmyn3* 0.25 0.5 0.475
olvi4* 0.5 1.0 0.5 0.5
cmyn4* 0.5 0.0 0.5 0.5

standard and adapted CIELAB
LAB*LAB 35.06 -34.88 5.65
LAB*LABa 35.06 -34.96 5.63
LAB*TCHa 25.01 35.42 170.85

relative CIELAB lab*
lab*lab 0.22 -0.493 0.079
lab*tch 0.25 0.5 0.475
lab*nch 0.5 0.5 0.475

relative Natural Colour (NC)
lab*lrj 0.22 -0.495 -0.06
lab*tce 0.25 0.5 0.52
lab*nce 0.5 0.5 g07b

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 52.11 -69.86 11.28
LAB*LABa 52.11 -69.92 11.26
LAB*TCHa 50.0 70.83 170.85

relative CIELAB lab*
lab*lab 0.441 -0.986 0.159
lab*tch 0.5 1.0 0.475
lab*nch 0.0 1.0 0.475

relative Natural Colour (NC)
lab*lrj 0.441 -0.991 -0.122
lab*tce 0.5 1.0 0.52
lab*nce 0.0 1.0 g07b

TE010-7, 3 step scales for constant CIELAB hue 151/360 = 0.419 (left)

3 step scales for constant CIELAB hue 171/360 = 0.475 (right)

BAM-test chart TE01; Colorimetric systems ORS18 & MRS18a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System ORS18

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

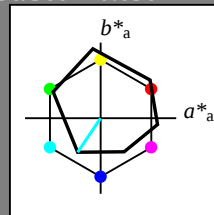
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

for hue $h^* = lab^*h = 217/360 = 0.601$

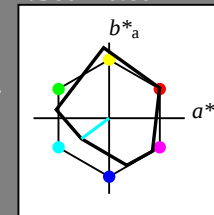
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 45 46 217

olv*Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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 0.01 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 56.71 0.05 0.0
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 0.1 0.02
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 70.21 -18.28 -13.55
LAB*LABa 70.21 -18.31 -13.56
LAB*TCHa 75.0 22.8 216.52

relative CIELAB lab*
lab*lab 0.674 -0.401 -0.296
lab*tch 0.75 0.5 0.601
lab*nch 0.0 0.5 0.601

relative Natural Colour (NC)
lab*lrj 0.674 -0.355 -0.35
lab*tce 0.75 0.5 0.624
lab*nce 0.0 0.5 g49b

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 31.52 -18.23 -13.53
LAB*LABa 31.52 -18.31 -13.56
LAB*TCHa 25.01 22.8 216.52

relative CIELAB lab*
lab*lab 0.175 -0.401 -0.296
lab*tch 0.25 0.5 0.601
lab*nch 0.5 0.5 0.601

relative Natural Colour (NC)
lab*lrj 0.175 -0.355 -0.35
lab*tce 0.25 0.5 0.624
lab*nce 0.5 0.5 g49b

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 45.03 -36.57 -27.11
LAB*LABa 45.03 -36.64 -27.13
LAB*TCHa 50.0 45.6 216.52

relative CIELAB lab*
lab*lab 0.349 -0.803 -0.594
lab*tch 0.5 1.0 0.601
lab*nch 0.0 1.0 0.601

relative Natural Colour (NC)
lab*lrj 0.349 -0.71 -0.702
lab*tce 0.5 1.0 0.624
lab*nce 0.0 1.0 g49b

Input: Colorimetric Reflective System ORS18

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

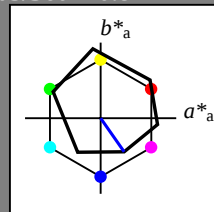
lab^*tch and lab^*nch

D65: hue V

LCH*Ma: 26 54 305

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



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

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

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

Output: Colorimetric Reflective System MRS18a

for hue $h^* = lab^*h = 290/360 = 0.807$

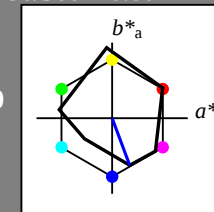
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 37 66 290

olv*Ma: 0.0 0.0 1.0

triangle lightness t^*



MRS18a; adapted (a) CIELAB data	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	272

%Gamut

$u^*_{rel} = 92$

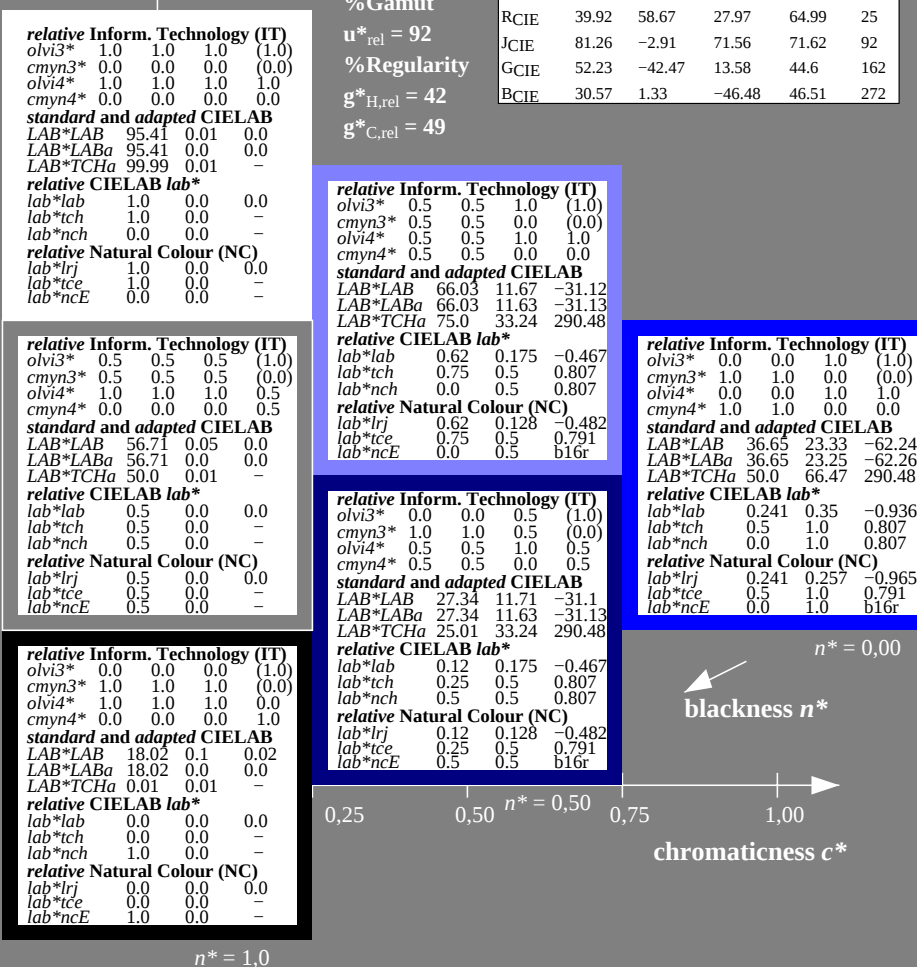
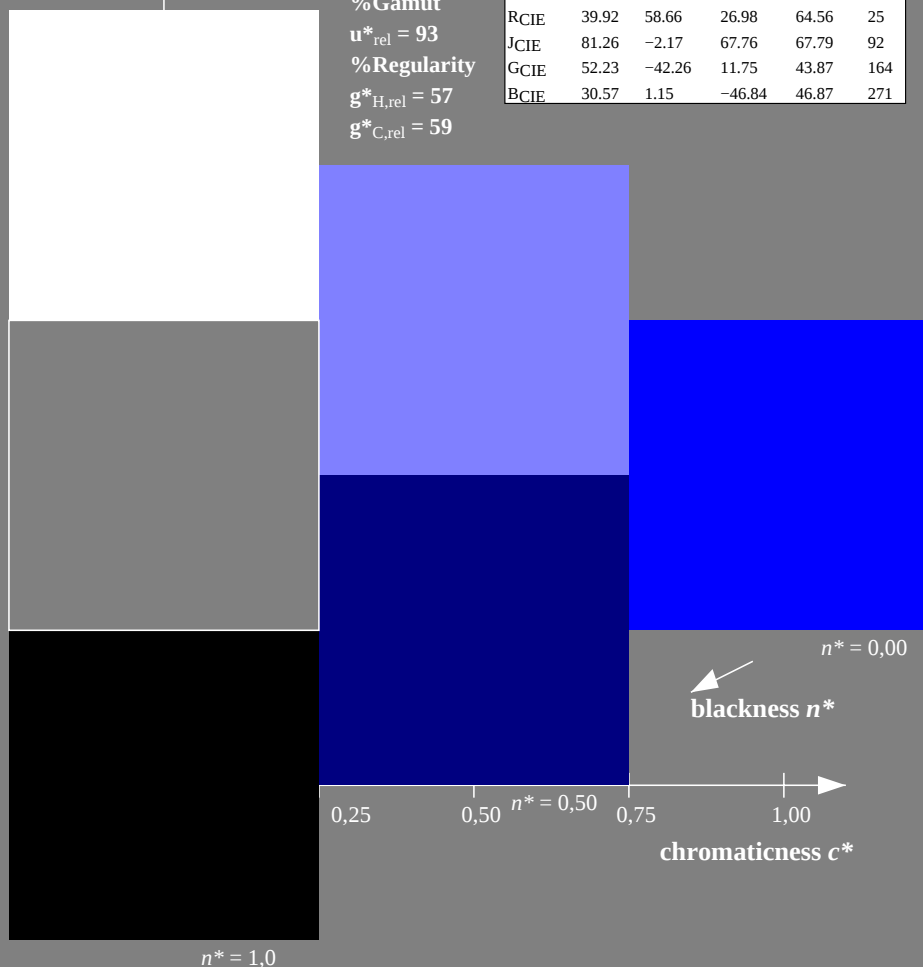
%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

relative Inform. Technology (IT)	$olvi3^*$	$cmyn3^*$	$olvi4^*$	$cmyn4^*$
standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa	
relative CIELAB lab*	lab*lab	lab*tch	lab*nch	
relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce	

relative Inform. Technology (IT)	$olvi3^*$	$cmyn3^*$	$olvi4^*$	$cmyn4^*$
standard and adapted CIELAB	LAB*LAB	LAB*LABa	LAB*TCHa	
relative CIELAB lab*	lab*lab	lab*tch	lab*nch	
relative Natural Colour (NC)	lab*lrj	lab*tce	lab*nce	



TE010-7, 3 step scales for constant CIELAB hue 305/360 = 0.847 (left)

3 step scales for constant CIELAB hue 290/360 = 0.807 (right)

BAM-test chart TE01; Colorimetric systems ORS18 & MRS18a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System ORS18

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

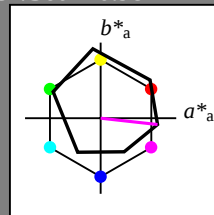
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

for hue $h^* = lab^*h = 323/360 = 0.896$

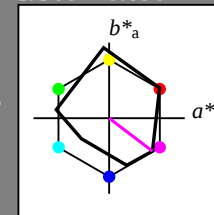
lab^*tch and lab^*nch

D65: hue B50R

LCH*Ma: 35 72 323

olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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 0.01 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 56.71 0.05 0.0
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 0.1 0.02
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 65.17 28.68 -21.78
LAB*LABa 65.17 28.63 -21.79
LAB*TCHa 75.0 35.99 322.71

relative CIELAB lab*
lab*lab 0.609 0.398 -0.302
lab*tch 0.75 0.5 0.896
lab*nch 0.0 0.5 0.896

relative Natural Colour (NC)
lab*lrj 0.609 0.324 -0.38
lab*tce 0.75 0.5 0.862
lab*nce 0.0 0.5 b44r

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 26.48 28.72 -21.77
LAB*LABa 26.48 28.63 -21.79
LAB*TCHa 25.01 35.99 322.71

relative CIELAB lab*
lab*lab 0.109 0.398 -0.302
lab*tch 0.25 0.5 0.896
lab*nch 0.5 0.5 0.896

relative Natural Colour (NC)
lab*lrj 0.109 0.324 -0.38
lab*tce 0.25 0.5 0.862
lab*nce 0.5 0.5 b44r

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 34.95 57.34 -43.57
LAB*LABa 34.95 57.26 -43.59
LAB*TCHa 50.0 71.98 322.71

relative CIELAB lab*
lab*lab 0.219 0.795 -0.605
lab*tch 0.5 1.0 0.896
lab*nch 0.0 1.0 0.896

relative Natural Colour (NC)
lab*lrj 0.219 0.648 -0.761
lab*tce 0.5 1.0 0.862
lab*nce 0.0 1.0 b44r

TE010-7, 3 step scales for constant CIELAB hue 354/360 = 0.982 (left)

3 step scales for constant CIELAB hue 323/360 = 0.896 (right)

BAM-test chart TE01; Colorimetric systems ORS18 & MRS18a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System ORS18

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

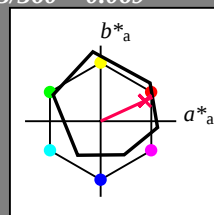
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

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

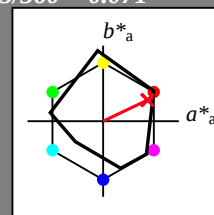
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 73 25

olv*Ma: 1.0 0.0 0.1

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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 0.01 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 56.71 0.05 0.0
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 0.5 0.552 (1.0)
cmyn3* 0.0 0.5 0.448 (0.0)
olvi4* 1.0 0.5 0.552 1.0
cmyn4* 0.0 0.5 0.448 0.0

standard and adapted CIELAB

LAB*LAB 71.76 32.94 15.69
LAB*LABa 71.76 32.9 15.68
LAB*TCHa 75.0 36.45 25.49

relative CIELAB lab*

lab*lab 0.694 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 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 0.052 (1.0)
cmyn3* 0.5 1.0 0.948 (0.0)
olvi4* 1.0 0.5 0.552 0.5
cmyn4* 0.0 0.5 0.448 0.5

standard and adapted CIELAB

LAB*LAB 33.07 32.98 15.72
LAB*LABa 33.07 32.9 15.69
LAB*TCHa 25.01 36.45 25.5

relative CIELAB lab*

lab*lab 0.195 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 0.195 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 0.103 (1.0)
cmyn3* 0.0 1.0 0.897 (0.0)
olvi4* 1.0 0.0 0.104 1.0
cmyn4* 0.0 1.0 0.896 0.0

standard and adapted CIELAB

LAB*LAB 48.11 65.86 31.39
LAB*LABa 48.11 65.8 31.37
LAB*TCHa 50.0 72.9 25.49

relative CIELAB lab*

lab*lab 0.389 0.902 0.43
lab*tch 0.5 1.0 0.071
lab*nch 0.0 1.0 0.071

relative Natural Colour (NC)

lab*lrj 0.389 1.0 0.0
lab*tce 0.5 1.0 0.0
lab*nce 0.0 1.0 0.00j

$n^* = 0.00$

blackness n^*

0,25 0,50 $n^* = 0.50$ 0,75 1,00

chromaticness c^*

$n^* = 1.0$

$n^* = 0.00$

blackness n^*

0,25 0,50 $n^* = 0.50$ 0,75 1,00

chromaticness c^*

$n^* = 1.0$

TE010-7, 3 step scales for constant CIELAB hue 25/360 = 0.069 (left)

3 step scales for constant CIELAB hue 25/360 = 0.071 (right)

BAM-test chart TE01; Colorimetric systems ORS18 & MRS18a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System ORS18

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

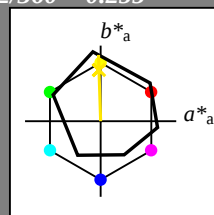
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

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

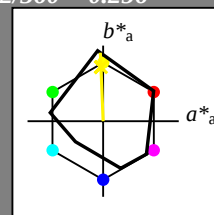
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 89 91 92

olv*Ma: 1.0 0.95 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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 0.01 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 56.71 0.05 0.0
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 0.1 0.02
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 0.976 0.5 (1.0)
cmyn3* 0.0 0.024 0.5 (0.0)
olvi4* 1.0 0.976 0.5 1.0
cmyn4* 0.0 0.024 0.5 0.0

standard and adapted CIELAB

LAB*LAB 92.06 -1.83 45.31
LAB*LABa 92.06 -1.84 45.31
LAB*TCHa 75.0 45.35 92.34

relative CIELAB lab*

lab*lab 0.957 -0.019 0.499
lab*tch 0.75 0.5 0.257
lab*nch 0.0 0.5 0.257

relative Natural Colour (NC)

lab*lrj 0.957 0.0 0.5
lab*tce 0.75 0.5 0.25
lab*nce 0.0 0.5 0.00g

relative Inform. Technology (IT)
olvi3* 0.5 0.476 0.0 (1.0)
cmyn3* 0.5 0.524 1.0 (0.0)
olvi4* 1.0 0.976 0.5 0.5
cmyn4* 0.0 0.024 0.5 0.5

standard and adapted CIELAB

LAB*LAB 53.36 -1.78 45.32
LAB*LABa 53.36 -1.84 45.3
LAB*TCHa 25.01 45.34 92.33

relative CIELAB lab*

lab*lab 0.457 -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 0.457 0.0 0.5
lab*tce 0.25 0.5 0.25
lab*nce 0.5 0.5 0.09g

relative Inform. Technology (IT)
olvi3* 1.0 0.952 0.0 (1.0)
cmyn3* 0.0 0.048 1.0 (0.0)
olvi4* 1.0 0.952 0.0 1.0
cmyn4* 0.0 0.048 1.0 0.0

standard and adapted CIELAB

LAB*LAB 88.71 -3.67 90.61
LAB*LABa 88.71 -3.69 90.61
LAB*TCHa 50.0 90.68 92.34

relative CIELAB lab*

lab*lab 0.913 -0.04 0.999
lab*tch 0.5 1.0 0.256
lab*nch 0.0 1.0 0.256

relative Natural Colour (NC)

lab*lrj 0.913 0.0 1.0
lab*tce 0.5 1.0 0.25
lab*nce 0.0 1.0 0.00g

TE010-7, 3 step scales for constant CIELAB hue 92/360 = 0.255 (left)

3 step scales for constant CIELAB hue 92/360 = 0.256 (right)

BAM-test chart TE01; Colorimetric systems ORS18 & MRS18a input: olv* setrgbcolor

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

output: no change compared to input

Input: Colorimetric Reflective System ORS18

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

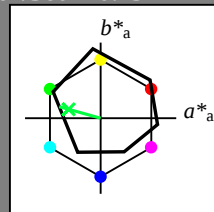
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

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

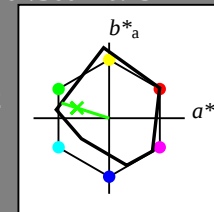
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 56 66 162

olv*Ma: 0.11 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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 0.01 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 56.71 0.05 0.0
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 0.1 0.02
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* 0.554 1.0 0.5 (1.0)
cmyn3* 0.446 0.0 0.5 (0.0)
olvi4* 0.555 1.0 0.5 1.0
cmyn4* 0.445 0.0 0.5 0.0

standard and adapted CIELAB
LAB*LAB 75.86 -31.51 10.1
LAB*LABa 75.86 -31.54 10.09
LAB*TCHa 75.0 33.13 162.26

relative CIELAB lab*
lab*lab 0.747 -0.475 0.152
lab*tch 0.75 0.5 0.451
lab*nch 0.0 0.5 0.451

relative Natural Colour (NC)
lab*lrj 0.747 -0.499 0.0
lab*tce 0.75 0.5 0.5
lab*nce 0.0 0.5 0.99g

relative Inform. Technology (IT)
olvi3* 0.054 0.5 0.0 (1.0)
cmyn3* 0.946 0.5 1.0 (0.0)
olvi4* 0.554 1.0 0.5 0.5
cmyn4* 0.446 0.0 0.5 0.5

standard and adapted CIELAB
LAB*LAB 37.16 -31.47 10.11
LAB*LABa 37.16 -31.55 10.08
LAB*TCHa 25.01 33.13 162.28

relative CIELAB lab*
lab*lab 0.247 -0.475 0.152
lab*tch 0.25 0.5 0.451
lab*nch 0.5 0.5 0.451

relative Natural Colour (NC)
lab*lrj 0.247 -0.499 0.0
lab*tce 0.25 0.5 0.5
lab*nce 0.5 0.5 0.00b

relative Inform. Technology (IT)
olvi3* 0.109 1.0 0.0 (1.0)
cmyn3* 0.891 0.0 1.0 (0.0)
olvi4* 0.109 1.0 0.0 1.0
cmyn4* 0.891 0.0 1.0 0.0

standard and adapted CIELAB
LAB*LAB 56.31 -63.05 20.19
LAB*LABa 56.31 -63.1 20.18
LAB*TCHa 50.0 66.26 162.27

relative CIELAB lab*
lab*lab 0.495 -0.951 0.304
lab*tch 0.5 1.0 0.451
lab*nch 0.0 1.0 0.451

relative Natural Colour (NC)
lab*lrj 0.495 -0.999 0.0
lab*tce 0.5 1.0 0.5
lab*nce 0.0 1.0 0.00b

Input: Colorimetric Reflective System ORS18

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

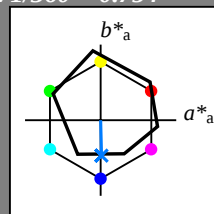
lab^*tch and lab^*nch

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

Output: Colorimetric Reflective System MRS18a

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

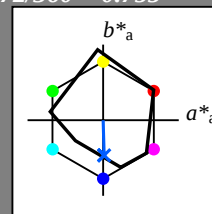
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 40 49 272

olv*Ma: 0.0 0.36 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 92$

%Regularity

$g^*_{H,rel} = 42$

$g^*_{C,rel} = 49$

MRS18a; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.8	40.02	77.87	31
JMa	90.7	-7.27	93.19	93.48	94
GMa	52.11	-69.93	11.26	70.85	171
G50BMa	45.03	-36.65	-27.13	45.61	217
BMa	36.65	23.26	-62.27	66.49	290
B50RMa	34.94	57.27	-43.6	71.99	323
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.67	27.97	64.99	25
JCIE	81.26	-2.91	71.56	71.62	92
GCIE	52.23	-42.47	13.58	44.6	162
BCIE	30.57	1.33	-46.48	46.51	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 0.01 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 56.71 0.05 0.0
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 0.1 0.02
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 0.682 1.0 (1.0)
cmyn3* 0.5 0.318 0.0 (0.0)
olvi4* 0.5 0.682 1.0 1.0
cmyn4* 0.5 0.318 0.0 0.0

standard and adapted CIELAB
LAB*LAB 67.55 0.74 -24.71
LAB*LABa 67.55 0.7 -24.72
LAB*TCHa 75.0 24.74 271.63

relative CIELAB lab*
lab*lab 0.64 0.014 -0.499
lab*tch 0.75 0.5 0.755
lab*nch 0.0 0.5 0.755

relative Natural Colour (NC)
lab*lrj 0.64 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 0.182 0.5 (1.0)
cmyn3* 1.0 0.818 0.5 (0.0)
olvi4* 0.5 0.682 1.0 0.5
cmyn4* 0.5 0.318 0.0 0.5

standard and adapted CIELAB
LAB*LAB 28.86 0.79 -24.7
LAB*LABa 28.86 0.71 -24.72
LAB*TCHa 25.01 24.74 271.64

relative CIELAB lab*
lab*lab 0.14 0.014 -0.499
lab*tch 0.25 0.5 0.755
lab*nch 0.5 0.5 0.755

relative Natural Colour (NC)
lab*lrj 0.14 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 0.365 1.0 (1.0)
cmyn3* 1.0 0.635 0.0 (0.0)
olvi4* 0.0 0.365 1.0 1.0
cmyn4* 1.0 0.635 0.0 0.0

standard and adapted CIELAB
LAB*LAB 39.71 1.49 -49.43
LAB*LABa 39.71 1.41 -49.45
LAB*TCHa 50.0 49.48 271.64

relative CIELAB lab*
lab*lab 0.28 0.029 -0.998
lab*tch 0.5 1.0 0.755
lab*nch 0.0 1.0 0.755

relative Natural Colour (NC)
lab*lrj 0.28 0.0 -0.999
lab*tce 0.5 1.0 0.75
lab*nce 0.0 1.0 b00r