

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 30/360 = 0.083$

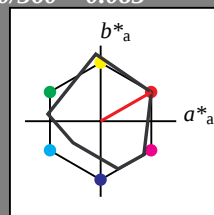
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 50 77 30

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

MRS18; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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	-

$n^* = 1.0$

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 24/360 = 0.066$

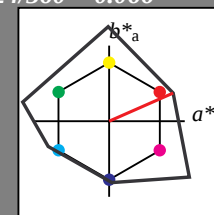
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 47 92 24

olv*Ma: 1.0 0.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

NCS11; adapted (a) CIELAB data

	$L^* = L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	-0.01
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	53.21	0.04	0.0
LAB*LABa	53.21	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	11.01	0.07	0.01
LAB*LABa	11.01	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

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

relative Natural Colour (NC)

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

$n^* = 1.0$

relative Inform. Technology (IT)				
olvi3*	1.0	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	71.27	42.34	18.63
LAB*LABa	71.27	42.31	18.62
LAB*TCHa	75.0	46.23	23.75

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.714	0.5	-0.011
lab*tce	0.75	0.5	0.996
lab*nce	0.0	0.5	0.996

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

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.214	0.5	-0.011
lab*tce	0.25	0.5	0.996
lab*nce	0.5	0.5	0.996

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	11.01	0.07	0.01
LAB*LABa	11.01	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	0.0	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	47.15	84.68	37.26
LAB*LABa	47.15	84.63	37.24
LAB*TCHa	50.0	92.46	23.75

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.428	1.0	-0.023
lab*tce	0.5	1.0	0.996
lab*nce	0.0	1.0	0.996

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

relative CIELAB lab*

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

relative Natural Colour (NC)

lab*lrj	0.214	0.5	-0.011
lab*tce	0.25	0.5	0.996
lab*nce	0.5	0.5	0.996

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

relative CIELAB lab*

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

relative Natural Colour (NC)

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

$n^* = 0.00$

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 94/360 = 0.261$

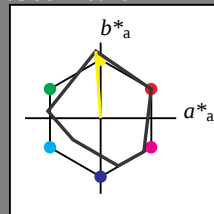
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 91 89 94

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 -

$n^* = 1.0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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 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 -4.11 48.97
LAB*LABa 93.05 -3.17 44.37
LAB*TCHa 75.0 44.48 94.1

relative CIELAB lab*
lab*lab 0.969 -0.035 0.499
lab*tch 0.75 0.5 0.261
lab*nch 0.0 0.5 0.261

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 -3.37 46.36
LAB*LABa 54.35 -3.17 44.37
LAB*TCHa 25.01 44.48 94.1

relative CIELAB lab*
lab*lab 0.47 -0.035 0.499
lab*tch 0.25 0.5 0.261
lab*nch 0.5 0.5 0.261

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* 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 -

$n^* = 0.00$

blackness n^*

chromaticness c^*

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 91/360 = 0.252$

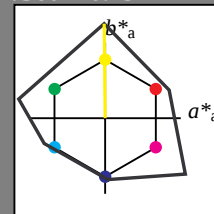
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 91 125 91

olv*Ma: 1.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
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 53.21 0.04 0.0
LAB*LABa 53.21 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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 1.0$

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

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 93.38 -0.62 62.5
LAB*LABa 93.38 -0.63 62.5
LAB*TCHa 75.0 62.5 90.59

relative CIELAB lab*
lab*lab 0.976 -0.004 0.5
lab*tch 0.75 0.5 0.252
lab*nch 0.0 0.5 0.252

relative Natural Colour (NC)
lab*lrj 0.976 0.02 0.499
lab*tce 0.75 0.5 0.243
lab*nce 0.0 0.5 r97j

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 51.18 -0.59 62.51
LAB*LABa 51.18 -0.63 62.5
LAB*TCHa 25.01 62.5 90.59

relative CIELAB lab*
lab*lab 0.476 -0.004 0.5
lab*tch 0.25 0.5 0.252
lab*nch 0.5 0.5 0.252

relative Natural Colour (NC)
lab*lrj 0.476 0.02 0.499
lab*tce 0.25 0.5 0.243
lab*nce 0.5 0.5 r97j

$n^* = 0.00$

blackness n^*

chromaticness c^*

UE130-7, 3 step scales for constant CIELAB hue 94/360 = 0.261 (left)

3 step scales for constant CIELAB hue 91/360 = 0.252 (right)

BAM-test chart UE13; Colorimetric systems ORS18 & ORS18

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

input: *cmY0* setcmykcolor*

output: *Startup (S) data dependend*

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 172/360 = 0.479$

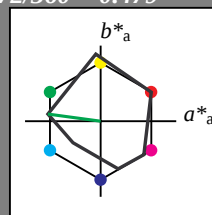
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 52 70 172

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 -

$n^* = 1,0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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* 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 -35.42 8.02
LAB*LABa 73.75 -34.85 4.72
LAB*TCHa 75.0 35.18 172.29

relative CIELAB lab*
lab*lab 0.72 -0.494 0.067
lab*tch 0.75 0.5 0.479
lab*nch 0.0 0.5 0.479

relative Natural Colour (NC)
lab*lrj 0.72 -0.496 -0.056
lab*tce 0.75 0.5 0.518
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 -34.67 5.41
LAB*LABa 35.06 -34.85 4.72
LAB*TCHa 25.01 35.18 172.29

relative CIELAB lab*
lab*lab 0.22 -0.494 0.067
lab*tch 0.25 0.5 0.479
lab*nch 0.5 0.5 0.479

relative Natural Colour (NC)
lab*lrj 0.22 -0.496 -0.056
lab*tce 0.25 0.5 0.518
lab*nce 0.5 0.5 g07b

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

$n^* = 0,00$

blackness n^*

chromaticness c^*

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 167/360 = 0.465$

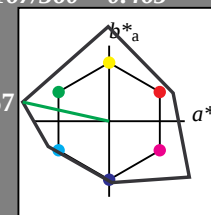
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 63 117 167

olv*Ma: 0.0 1.0 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
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 53.21 0.04 0.0
LAB*LABa 53.21 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 0.0 1.0 (0.0)
olvi4* 1.0 0.0 1.0 0.0
cmyn4* 0.0 0.0 0.0 1.0

standard and adapted CIELAB
LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 1,0$

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

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 79.24 -57.1 12.67
LAB*LABa 79.24 -57.12 12.67
LAB*TCHa 75.0 58.52 167.5

relative CIELAB lab*
lab*lab 0.808 -0.487 0.108
lab*tch 0.75 0.5 0.465
lab*nch 0.0 0.5 0.465

relative Natural Colour (NC)
lab*lrj 0.808 -0.497 -0.037
lab*tce 0.75 0.5 0.512
lab*nce 0.0 0.5 g04b

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 37.04 -57.07 12.69
LAB*LABa 37.04 -57.12 12.67
LAB*TCHa 25.01 58.52 167.5

relative CIELAB lab*
lab*lab 0.309 -0.487 0.108
lab*tch 0.25 0.5 0.465
lab*nch 0.5 0.5 0.465

relative Natural Colour (NC)
lab*lrj 0.309 -0.497 -0.037
lab*tce 0.25 0.5 0.512
lab*nce 0.5 0.5 g04b

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

standard and adapted CIELAB
LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 0,00$

blackness n^*

chromaticness c^*

UE130-7, 3 step scales for constant CIELAB hue 172/360 = 0.479 (left)

3 step scales for constant CIELAB hue 167/360 = 0.465 (right)

BAM-test chart UE13; Colorimetric systems ORS18 & ORS18

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

input: *cmv0* setcmvcolor*

output: *Startup (S) data dependend*

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 218/360 = 0.605$

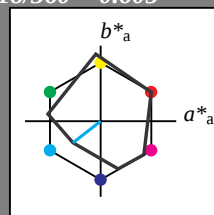
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 45 46 218

ol v^* Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 -

$n^* = 1,0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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* 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 -18.77 -11.17
LAB*LABa 70.21 -18.27 -14.23
LAB*TCHa 75.0 23.17 217.91

relative CIELAB lab*
lab*lab 0.674 -0.393 -0.306
lab*tch 0.75 0.5 0.605
lab*nch 0.0 0.5 0.605

relative Natural Colour (NC)
lab*lrj 0.674 -0.353 -0.352
lab*tce 0.75 0.5 0.625
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 -18.03 -13.78
LAB*LABa 31.52 -18.27 -14.23
LAB*TCHa 25.01 23.17 217.91

relative CIELAB lab*
lab*lab 0.175 -0.393 -0.306
lab*tch 0.25 0.5 0.605
lab*nch 0.5 0.5 0.605

relative Natural Colour (NC)
lab*lrj 0.175 -0.353 -0.352
lab*tce 0.25 0.5 0.625
lab*nce 0.5 0.5 g49b

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 0.0 0.0 (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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 0,00$

blackness n^*

chromaticness c^*

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 203/360 = 0.563$

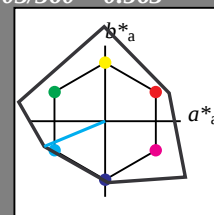
lab^*tch and lab^*nch

D65: hue G50B

LCH*Ma: 59 87 203

ol v^* Ma: 0.0 1.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
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 53.21 0.04 0.0
LAB*LABa 53.21 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 0.0 0.0 (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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 1,0$

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

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 77.43 -40.26 -16.71
LAB*LABa 77.43 -40.29 -16.72
LAB*TCHa 75.0 43.63 202.54

relative CIELAB lab*
lab*lab 0.787 -0.461 -0.191
lab*tch 0.75 0.5 0.563
lab*nch 0.0 0.5 0.563

relative Natural Colour (NC)
lab*lrj 0.787 -0.418 -0.272
lab*tce 0.75 0.5 0.592
lab*nce 0.0 0.5 g36b

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 35.23 -40.23 -16.7
LAB*LABa 35.23 -40.29 -16.72
LAB*TCHa 25.01 43.63 202.54

relative CIELAB lab*
lab*lab 0.287 -0.461 -0.191
lab*tch 0.25 0.5 0.563
lab*nch 0.5 0.5 0.563

relative Natural Colour (NC)
lab*lrj 0.287 -0.418 -0.272
lab*tce 0.25 0.5 0.592
lab*nce 0.5 0.5 g36b

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 0.0 0.0 (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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 0,00$

blackness n^*

chromaticness c^*

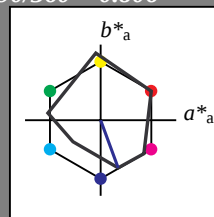
BAM-test chart UE13; Colorimetric systems ORS18 & ORS18
D65: 2 coordinate data of 3 step colour scales for 10 hues

input: $cmY0^* setcmykcolor$
output: Startup (S) data dependend

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 290/360 = 0.806$
 lab^*tch and lab^*nch

D65: hue B
LCH*Ma: 37 67 290
olv*Ma: 0.0 0.0 1.0
triangle lightness t^*



MRS18; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 -

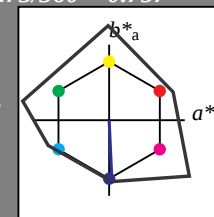
relative Natural Colour (NC)
lab*lrj 0.0 0.0 0.0
lab*tce 0.0 0.0 -
lab*nce 1.0 0.0 -

$n^* = 1,0$

Output: Colorimetric Reflective System NCS11

for hue $h^* = lab^*h = 273/360 = 0.757$
 lab^*tch and lab^*nch

D65: hue B
LCH*Ma: 49 81 273
olv*Ma: 0.0 0.0 1.0
triangle lightness t^*



NCS11; adapted (a) CIELAB data					
	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
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 53.21 0.04 0.0
LAB*LABa 53.21 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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 1,0$

BAM-test chart UE13; Colorimetric systems ORS18 & ORS18
D65: 2 coordinate data of 3 step colour scales for 10 hues

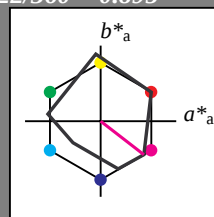
3 step scales for constant CIELAB hue 273/360 = 0.757 (right)
input: $cmY0^* setcmykcolor$
output: Startup (S) data dependend

Input: Colorimetric Reflective System MRS18

for hue $h^* = lab^*h = 322/360 = 0.895$
 lab^*tch and lab^*nch

D65: hue B50R
LCH*Ma: 35 72 322
olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 -

$n^* = 1,0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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 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 28.18 -19.4
LAB*LABa 65.17 28.58 -22.12
LAB*TCHa 75.0 36.15 322.25

relative CIELAB lab*
lab*lab 0.609 0.395 -0.305
lab*tch 0.75 0.5 0.895
lab*nch 0.0 0.5 0.895

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 28.92 -22.01
LAB*LABa 26.48 28.58 -22.12
LAB*TCHa 25.01 36.15 322.25

relative CIELAB lab*
lab*lab 0.109 0.395 -0.305
lab*tch 0.25 0.5 0.895
lab*nch 0.5 0.5 0.895

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* 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 -

$n^* = 0,00$

blackness n^*

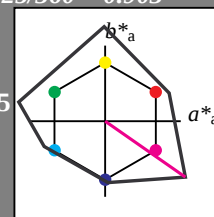
chromaticness c^*

Output: Colorimetric Reflective System NCS11

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

D65: hue B50R
LCH*Ma: 44 129 325
olv*Ma: 1.0 0.0 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
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 53.21 0.04 0.0
LAB*LABa 53.21 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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 1,0$

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

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 69.73 53.06 -36.95
LAB*LABa 69.73 53.03 -36.95
LAB*TCHa 75.0 64.65 325.12

relative CIELAB lab*
lab*lab 0.696 0.41 -0.285
lab*tch 0.75 0.5 0.903
lab*nch 0.0 0.5 0.903

relative Natural Colour (NC)
lab*lrj 0.696 0.336 -0.369
lab*tce 0.75 0.5 0.867
lab*nce 0.0 0.5 b46r

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 27.53 53.1 -36.94
LAB*LABa 27.53 53.03 -36.95
LAB*TCHa 25.01 64.65 325.12

relative CIELAB lab*
lab*lab 0.196 0.41 -0.285
lab*tch 0.25 0.5 0.903
lab*nch 0.5 0.5 0.903

relative Natural Colour (NC)
lab*lrj 0.196 0.336 -0.369
lab*tce 0.25 0.5 0.867
lab*nce 0.5 0.5 b46r

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 -

$n^* = 0,00$

blackness n^*

chromaticness c^*

UE130-7, 3 step scales for constant CIELAB hue 322/360 = 0.895 (left)

3 step scales for constant CIELAB hue 325/360 = 0.903 (right)

BAM-test chart UE13; Colorimetric systems ORS18 & ORS18

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

input: $cmY0^* setcmykcolor$

output: Startup (S) data dependend

Input: Colorimetric Reflective System MRS18

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

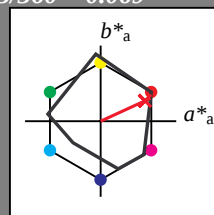
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 73 25

olv*Ma: 1.0 0.0 0.1

triangle lightness t^*



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 -

$n^* = 1,0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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 0.5 0.548 (1.0)
cmyn3* 0.0 0.5 0.452 (0.0)
olvi4* 1.0 0.5 0.549 1.0
cmyn4* 0.0 0.5 0.451 0.0

standard and adapted CIELAB
LAB*LAB 71.8 32.47 18.34
LAB*LABa 71.8 33.0 15.17
LAB*TCHa 75.0 36.32 24.7

relative CIELAB lab*
lab*lab 0.695 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 0.695 0.5 0.0
lab*tce 0.75 0.5 1.0
lab*nce 0.0 0.5 0.999

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.048 (1.0)
cmyn3* 0.5 1.0 0.952 (0.0)
olvi4* 1.0 0.5 0.548 0.5
cmyn4* 0.0 0.5 0.452 0.5

standard and adapted CIELAB
LAB*LAB 33.11 33.21 15.74
LAB*LABa 33.11 33.0 15.18
LAB*TCHa 25.01 36.33 24.71

relative CIELAB lab*
lab*lab 0.195 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 0.195 0.5 0.0
lab*tce 0.25 0.5 0.0
lab*nce 0.5 0.5 0.999

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

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

$n^* = 0,50$

$n^* = 0,00$

blackness n^*

chromaticness c^*

2,25 0,50 0,75 1,00

Output: Colorimetric Reflective System NCS11

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

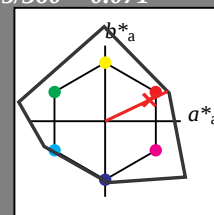
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 48 91 25

olv*Ma: 1.0 0.02 0.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
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 53.21 0.04 0.0
LAB*LABa 53.21 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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 1,0$

relative Inform. Technology (IT)
olvi3* 1.0 0.512 0.5 (1.0)
cmyn3* 0.0 0.488 0.5 (0.0)
olvi4* 1.0 0.512 0.5 1.0
cmyn4* 0.0 0.488 0.5 0.0

standard and adapted CIELAB
LAB*LAB 71.81 41.31 19.68
LAB*LABa 71.81 41.28 19.68
LAB*TCHa 75.0 45.73 25.49

relative CIELAB lab*
lab*lab 0.72 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 0.72 0.5 0.0
lab*tce 0.75 0.5 0.0
lab*nce 0.0 0.5 0.999

relative Inform. Technology (IT)
olvi3* 0.5 0.012 0.0 (1.0)
cmyn3* 0.5 0.988 1.0 (0.0)
olvi4* 1.0 0.512 0.5 0.5
cmyn4* 0.0 0.488 0.5 0.5

standard and adapted CIELAB
LAB*LAB 29.6 41.35 19.69
LAB*LABa 29.6 41.29 19.67
LAB*TCHa 25.01 45.73 25.47

relative CIELAB lab*
lab*lab 0.22 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 0.22 0.5 0.0
lab*tce 0.25 0.5 1.0
lab*nce 0.5 0.5 0.999

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

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

$n^* = 0,50$

blackness n^*

chromaticness c^*

2,25 0,50 0,75 1,00

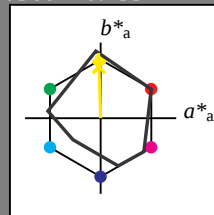
Input: Colorimetric Reflective System MRS18

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

D65: hue J

LCH*Ma: 89 86 92

olv*Ma: 1.0 0.95 0.0

triangle lightness t^* 

%Gamut

 $u^*_{rel} = 91$

%Regularity

 $g^*_{H,rel} = 41$ $g^*_{C,rel} = 52$

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	-

 $n^* = 1.0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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	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	92.04	-2.3	47.67
LAB*LABa	92.04	-1.39	43.14
LAB*TCHa	75.0	43.16	91.85

relative CIELAB lab*

lab*lab	0.957	-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	0.957	0.0	0.5
lab*tce	0.75	0.5	0.25
lab*nce	0.0	0.5	j00g

relative Inform. Technology (IT)

olvi3*	0.5	0.476	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	53.35	-1.55	45.05
LAB*LABa	53.35	-1.38	43.13
LAB*TCHa	25.01	43.16	91.84

relative CIELAB lab*

lab*lab	0.457	-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	0.457	0.0	0.5
lab*tce	0.25	0.5	0.25
lab*nce	0.5	0.5	r99j

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

relative CIELAB lab*

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

relative Natural Colour (NC)

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

$n^* = 0.00$
blackness n^*

chromaticness c^*

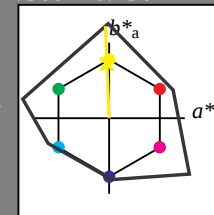
Output: Colorimetric Reflective System NCS11

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

D65: hue J

LCH*Ma: 90 122 92

olv*Ma: 0.97 1.0 0.0

triangle lightness t^* 

%Gamut

 $u^*_{rel} = 149$

%Regularity

 $g^*_{H,rel} = 46$ $g^*_{C,rel} = 65$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	-0.01
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	53.21	0.04	0.0
LAB*LABa	53.21	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	11.01	0.07	0.01
LAB*LABa	11.01	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

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

relative Natural Colour (NC)

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

$n^* = 0.00$
blackness n^*

chromaticness c^*

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

relative Inform. Technology (IT)

olvi3*	0.984	1.0	0.5	(1.0)
cmyn3*	0.016	0.0	0.5	(0.0)
olvi4*	0.984	1.0	0.5	1.0
cmyn4*	0.016	0.0	0.5	0.0

standard and adapted CIELAB

LAB*LAB	92.92	-2.44	60.89
LAB*LABa	92.92	-2.46	60.89
LAB*TCHa	75.0	60.94	92.32

relative CIELAB lab*

lab*lab	0.971	-0.019	0.499
lab*tch	0.75	0.5	0.256
lab*nch	0.0	0.5	0.256

relative Natural Colour (NC)

lab*lrj	0.971	0.0	0.5
lab*tce	0.75	0.5	0.25
lab*nce	0.0	0.5	r99j

relative Inform. Technology (IT)

olvi3*	0.484	0.5	0.0	(1.0)
cmyn3*	0.516	0.5	1.0	(0.0)
olvi4*	0.984	1.0	0.5	0.5
cmyn4*	0.016	0.0	0.5	0.5

standard and adapted CIELAB

LAB*LAB	50.72	-2.42	60.89
LAB*LABa	50.72	-2.47	60.88
LAB*TCHa	25.01	60.93	92.33

relative CIELAB lab*

lab*lab	0.471	-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	0.471	0.0	0.5
lab*tce	0.25	0.5	0.25
lab*nce	0.5	0.5	j00g

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

relative CIELAB lab*

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

relative Natural Colour (NC)

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

$n^* = 0.00$
blackness n^*

chromaticness c^*

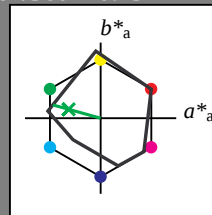
Input: Colorimetric Reflective System MRS18

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

D65: hue G

LCH*Ma: 56 66 164

olv*Ma: 0.1 1.0 0.0

triangle lightness t^* 

%Gamut

 $u^*_{rel} = 91$

%Regularity

 $g^*_{H,rel} = 41$ $g^*_{C,rel} = 52$

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	-

 $n^* = 1.0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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*	0.551	1.0	0.5	(1.0)
cmyn3*	0.449	0.0	0.5	(0.0)
olvi4*	0.551	1.0	0.5	1.0
cmyn4*	0.449	0.0	0.5	0.0

standard and adapted CIELAB

LAB*LAB	75.74	-32.2	12.22
LAB*LABa	75.74	-31.6	8.79
LAB*TCHa	75.0	32.81	164.46

relative CIELAB lab*

lab*lab	0.746	-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	0.746	-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*	0.051	0.5	0.0	(1.0)
cmyn3*	0.949	0.5	1.0	(0.0)
olvi4*	0.551	1.0	0.5	0.5
cmyn4*	0.449	0.0	0.5	0.5

standard and adapted CIELAB

LAB*LAB	37.04	-31.47	9.6
LAB*LABa	37.04	-31.6	8.78
LAB*TCHa	25.01	32.81	164.47

relative CIELAB lab*

lab*lab	0.246	-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	0.246	-0.499	0.0
lab*tce	0.25	0.5	0.5
lab*nce	0.5	0.5	g00b

 $n^* = 0.50$ blackness n^* chromaticness c^*

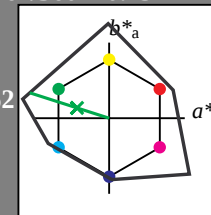
Output: Colorimetric Reflective System NCS11

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

D65: hue G

LCH*Ma: 65 110 162

olv*Ma: 0.08 1.0 0.0

triangle lightness t^* 

%Gamut

 $u^*_{rel} = 149$

%Regularity

 $g^*_{H,rel} = 46$ $g^*_{C,rel} = 65$

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	95.41	0.0	-0.01
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	53.21	0.04	0.0
LAB*LABa	53.21	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	11.01	0.07	0.01
LAB*LABa	11.01	0.0	0.0
LAB*TCHa	0.01	0.01	-

relative CIELAB lab*

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

relative Natural Colour (NC)

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

 $n^* = 1.0$

relative Inform. Technology (IT)

olvi3*	0.541	1.0	0.5	(1.0)
cmyn3*	0.459	0.0	0.5	(0.0)
olvi4*	0.541	1.0	0.5	1.0
cmyn4*	0.459	0.0	0.5	0.0

standard and adapted CIELAB

LAB*LAB	80.4	-52.43	16.79
LAB*LABa	80.4	-52.45	16.79
LAB*TCHa	75.0	55.08	162.25

relative CIELAB lab*

lab*lab	0.822	-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	0.822	-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*	0.041	0.5	0.0	(1.0)
cmyn3*	0.959	0.5	1.0	(0.0)
olvi4*	0.541	1.0	0.5	0.5
cmyn4*	0.459	0.0	0.5	0.5

standard and adapted CIELAB

LAB*LAB	38.2	-52.41	16.8
LAB*LABa	38.2	-52.46	16.78
LAB*TCHa	25.01	55.09	162.27

relative CIELAB lab*

lab*lab	0.322	-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	0.322	-0.499	0.0
lab*tce	0.25	0.5	0.5
lab*nce	0.5	0.5	g00b

 $n^* = 0.50$ blackness n^* chromaticness c^*

UE130-7, 3 step scales for constant CIELAB hue 164/360 = 0.457 (left)

3 step scales for constant CIELAB hue 162/360 = 0.451 (right)

BAM-test chart UE13; Colorimetric systems ORS18 & ORS18

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

input: $cmY0^* setcmykcolor$

output: Startup (S) data dependend

Input: Colorimetric Reflective System MRS18

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

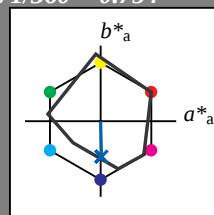
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 40 50 271

ol v^* Ma: 0.0 0.37 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 91$

%Regularity

$g^*_{H,rel} = 41$

$g^*_{C,rel} = 52$

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 -

$n^* = 1,0$

MRS18; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	49.63	66.96	38.37	77.18	30
JMa	90.7	-6.36	88.75	88.98	94
GMa	52.11	-69.73	9.44	70.37	172
G50BMa	45.03	-36.57	-28.47	46.36	218
BMa	36.65	23.19	-63.05	67.18	290
B50RMa	34.94	57.17	-44.26	72.31	322
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* 0.5 0.684 1.0 (1.0)
cmyn3* 0.5 0.316 0.0 (0.0)
olvi4* 0.5 0.684 1.0 1.0
cmyn4* 0.5 0.316 0.0 0.0

standard and adapted CIELAB
LAB*LAB 67.57 0.17 -22.28
LAB*LABa 67.57 0.61 -25.16
LAB*TCHa 75.0 25.18 271.4

relative CIELAB lab*
lab*lab 0.64 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 0.64 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 0.184 0.5 (1.0)
cmyn3* 1.0 0.816 0.5 (0.0)
olvi4* 0.5 0.684 1.0 0.5
cmyn4* 0.5 0.316 0.0 0.5

standard and adapted CIELAB
LAB*LAB 28.87 0.92 -24.9
LAB*LABa 28.87 0.62 -25.16
LAB*TCHa 25.01 25.18 271.41

relative CIELAB lab*
lab*lab 0.14 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 0.14 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 0.0 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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 0,00$

blackness n^*

chromaticness c^*

Output: Colorimetric Reflective System NCS11

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

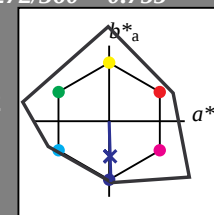
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 80 272

ol v^* Ma: 0.0 0.02 1.0

triangle lightness t^*



%Gamut

$u^*_{rel} = 149$

%Regularity

$g^*_{H,rel} = 46$

$g^*_{C,rel} = 65$

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

standard and adapted CIELAB
LAB*LAB 95.41 0.0 -0.01
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 53.21 0.04 0.0
LAB*LABa 53.21 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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 1,0$

NCS11; adapted (a) CIELAB data

	$L^*=L^*_a$	a^*_a	b^*_a	$C^*_{ab,a}$	$h^*_{ab,a}$
RMa	47.15	84.64	37.25	92.48	24
JMa	91.37	-1.27	125.03	125.03	91
GMa	63.07	-114.28	25.35	117.06	167
G50BMa	59.47	-80.6	-33.45	87.28	203
BMa	49.01	3.65	-81.19	81.28	273
B50RMa	44.06	106.09	-73.93	129.32	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

relative Inform. Technology (IT)
olvi3* 0.5 0.508 1.0 (1.0)
cmyn3* 0.5 0.492 0.0 (0.0)
olvi4* 0.5 0.508 1.0 1.0
cmyn4* 0.5 0.492 0.0 0.0

standard and adapted CIELAB
LAB*LAB 72.29 1.2 -40.21
LAB*LABa 72.29 1.17 -40.21
LAB*TCHa 75.0 40.24 271.66

relative CIELAB lab*
lab*lab 0.726 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 0.726 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 0.008 0.5 (1.0)
cmyn3* 1.0 0.992 0.5 (0.0)
olvi4* 0.5 0.508 1.0 0.5
cmyn4* 0.5 0.492 0.0 0.5

standard and adapted CIELAB
LAB*LAB 30.09 1.24 -40.2
LAB*LABa 30.09 1.18 -40.21
LAB*TCHa 25.01 40.24 271.67

relative CIELAB lab*
lab*lab 0.226 0.015 -0.499
lab*tch 0.25 0.5 0.755
lab*nch 0.5 0.5 0.755

relative Natural Colour (NC)
lab*lrj 0.226 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 0.0 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 11.01 0.07 0.01
LAB*LABa 11.01 0.0 0.0
LAB*TCHa 0.01 0.01 -

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

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

$n^* = 0,00$

blackness n^*

chromaticness c^*