

Input: Colorimetric Reflective System NCS11

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

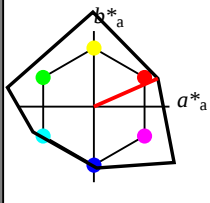
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 47 92 24

rgb*Ma: 1.0 0.0 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 149$

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)
LAB*LAB	95.41	0.0	-0.01	
LAB*LABa	95.41	0.0	0.0	
LAB*LABb	99.99	0.01	0.0	

relative Inform. Technology (IT)

olvi3*	1.0	0.75	0.75	(1.0)
cmyn3*	0.0	0.25	0.25	(0.0)
olvi4*	1.0	0.75	0.75	(1.0)
cmyn4*	0.0	0.25	0.25	(0.0)
LAB*LAB	83.34	21.17	9.31	
LAB*LABa	83.34	21.15	9.31	
LAB*LABb	97.5	23.11	23.75	

relative Inform. Technology (IT)

olvi3*	0.75	0.75	0.75	(1.0)
cmyn3*	0.25	0.25	0.25	(0.0)
olvi4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	74.31	0.02	0.0	
LAB*LABa	74.31	0.0	0.0	
LAB*LABb	75.0	0.01	-	

relative Inform. Technology (IT)

olvi3*	0.75	0.5	0.5	(1.0)
cmyn3*	0.25	0.5	0.5	(0.0)
olvi4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	62.24	21.2	9.32	
LAB*LABa	62.24	21.16	9.31	
LAB*LABb	62.5	23.12	23.75	

relative Inform. Technology (IT)

olvi3*	0.75	0.25	0.25	(1.0)
cmyn3*	0.25	0.25	0.25	(0.0)
olvi4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	53.21	0.04	0.0	
LAB*LABa	53.21	0.0	0.0	
LAB*LABb	50.0	0.01	-	

relative Inform. Technology (IT)

olvi3*	0.75	0.5	0.5	(1.0)
cmyn3*	0.25	0.5	0.5	(0.0)
olvi4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	41.14	21.21	9.33	
LAB*LABa	41.14	21.16	9.31	
LAB*LABb	37.5	23.12	23.75	

relative Inform. Technology (IT)

olvi3*	0.75	0.25	0.25	(1.0)
cmyn3*	0.25	0.25	0.25	(0.0)
olvi4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	29.07	42.36	18.64	
LAB*LABa	29.07	42.31	18.62	
LAB*LABb	25.01	46.23	23.75	

relative Inform. Technology (IT)

olvi3*	0.75	0.5	0.5	(1.0)
cmyn3*	0.25	0.5	0.5	(0.0)
olvi4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	20.04	21.22	9.33	
LAB*LABa	20.04	21.15	9.31	
LAB*LABb	12.5	23.11	23.75	

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	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	11.01	0.07	0.01	
LAB*LABa	11.01	0.0	0.0	
LAB*LABb	0.01	0.01	-	

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	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	0.0	0.0	0.0	
LAB*LABa	0.0	0.0	0.0	
LAB*LABb	0.0	0.0	0.0	

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

% Regularity

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

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

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)
LAB*LAB	71.27	42.31	18.62	
LAB*LABa	71.27	42.31	18.62	
LAB*LABb	75.0	46.23	23.75	

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)
LAB*LAB	59.21	63.51	27.94	
LAB*LABa	59.21	63.48	27.93	
LAB*LABb	62.5	69.35	23.75	

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)
LAB*LAB	50.17	42.37	18.64	
LAB*LABa	50.17	42.32	18.63	
LAB*LABb	50.0	46.23	23.75	

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)
LAB*LAB	38.11	63.53	27.95	
LAB*LABa	38.11	63.48	27.93	
LAB*LABb	37.51	69.35	23.75	

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)
LAB*LAB	30.57	42.36	18.64	
LAB*LABa	30.57	42.31	18.62	
LAB*LABb	25.01	46.23	23.75	

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)
LAB*LAB	20.04	21.22	9.33	
LAB*LABa	20.04	21.15	9.31	
LAB*LABb	12.5	23.11	23.75	

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	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	11.01	0.07	0.01	
LAB*LABa	11.01	0.0	0.0	
LAB*LABb	0.01	0.01	-	

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	(1.0)
cmyn4*	0.0	0.0	0.0	(0.0)
LAB*LAB	0.0	0.0	0.0	
LAB*LABa	0.0	0.0	0.0	
LAB*LABb	0.0	0.0	0.0	

$n^* = 0.00$

$n^* = 0.25$

$n^* = 0.50$

$n^* = 0.75$

$n^* = 1.00$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

$n^* = 1.0$

Output: Colorimetric Reflective System MRS18

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

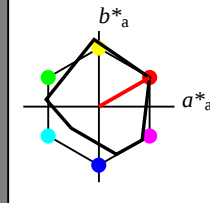
lab^*tch and lab^*nch

D65: hue R

LCH*Ma: 50 77 30

rgb*Ma: 1.0 0.0 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 91$

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)
LAB*LAB	95.41	-0.97	4.75	
LAB*LABa	95.41	0.0	0.0	
LAB*LABb	99.99	0.01	0.0	

relative Inform. Technology (IT)

olvi3*	1.0	0.75	0.75	(1.0)
cmyn3*	0.0	0.25	0.25	(0.0)
olvi4*	1.0	0.75	0.75	(1.0)
cmyn4*	0.0	0.25	0.25	(0.0)
LAB*LAB	83.96	15.97	13.58	
LAB*LABa	83.96	16.73	9.59	
LAB*LABb	87.5	19.29	29.82	

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)
LAB*LAB	76.06	-0.6	3.44	
LAB*LABa	76.06	0.0	0.0	
LAB*LABb	75.0	0.01	-	

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)
LAB*LAB	64.61	16.35	12.27	
LAB*LABa	64.61	16.74	9.59	
LAB*LABb	62.5	19.29	29.82	

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)
LAB*LAB	56.71	0.23	2.14	
LAB*LABa	56.71	0.0	0.0	
LAB*LABb	50.0	0.01	-	

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)
LAB*LAB	45.26	16.72	10.97	
LAB*LABa	45.26	16.74	9.59	
LAB*LABb	37.5	19.29	29.82	

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)
LAB*LAB	33.82	33.47	19.18	
LAB*LABa	33.82	33.47	19.18	
LAB*LABb	25.01	38.58	29.82	

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)
LAB*LAB	25.92	16.73	9.59	
LAB*LABa	25.92	16.74	9.59	
LAB*LABb	12.5	19.29	29.82	

relative Inform. Technology (IT)

olvi3*	0.0	0.0	0.0	(1.0
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Input: Colorimetric Reflective System NCS11

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

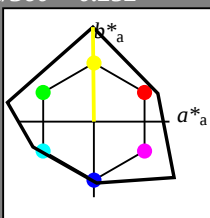
lab^*tch and lab^*nch

D65: hue J

LCH*Ma: 91 125 91

rgb*Ma: 1.0 1.0 0.0

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

%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*LABb	99.99	0.01	0.0

relative CIELAB lab*

lab*lab	1.0	0.0	0.0
lab*lab	1.0	0.0	0.0
lab*lab	1.0	0.0	0.0
lab*lab	1.0	0.0	0.0

relative Natural Colour (NC)

lab*lab	1.0	0.0	0.0
lab*lab	1.0	0.0	0.0
lab*lab	1.0	0.0	0.0
lab*lab	1.0	0.0	0.0

relative Inform. Technology (IT)

olvi3*	1.0	1.0	0.75	(1.0)
cmyn3*	0.0	0.0	0.25	(0.0)
olvi4*	1.0	1.0	0.75	(1.0)
cmyn4*	0.0	0.0	0.25	(0.0)

standard and adapted CIELAB

LAB*LAB	94.39	-0.31	31.24
LAB*LABa	94.39	-0.31	31.24
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.988	-0.002	0.25
lab*lab	0.988	-0.002	0.25
lab*lab	0.988	-0.002	0.25
lab*lab	0.988	-0.002	0.25

relative Natural Colour (NC)

lab*lab	0.988	0.01	0.25
lab*lab	0.988	0.01	0.25
lab*lab	0.988	0.01	0.25
lab*lab	0.988	0.01	0.25

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	-0.62	62.5
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.976	-0.004	0.5
lab*lab	0.976	-0.004	0.5
lab*lab	0.976	-0.004	0.5
lab*lab	0.976	-0.004	0.5

relative Natural Colour (NC)

lab*lab	0.976	0.02	0.493
lab*lab	0.976	0.02	0.493
lab*lab	0.976	0.02	0.493
lab*lab	0.976	0.02	0.493

relative Inform. Technology (IT)

olvi3*	1.0	1.0	0.25	(1.0)
cmyn3*	0.0	0.0	0.25	(0.0)
olvi4*	1.0	1.0	0.25	(1.0)
cmyn4*	0.0	0.0	0.25	(0.0)

standard and adapted CIELAB

LAB*LAB	92.37	-0.94	93.76
LAB*LABa	92.37	-0.94	93.76
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.964	-0.007	0.75
lab*lab	0.964	-0.007	0.75
lab*lab	0.964	-0.007	0.75
lab*lab	0.964	-0.007	0.75

relative Natural Colour (NC)

lab*lab	0.964	0.031	0.749
lab*lab	0.964	0.031	0.749
lab*lab	0.964	0.031	0.749
lab*lab	0.964	0.031	0.749

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	91.36	-1.26	125.0
LAB*LABa	91.36	-1.26	125.0
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.952	-0.009	1.0
lab*lab	0.952	-0.009	1.0
lab*lab	0.952	-0.009	1.0
lab*lab	0.952	-0.009	1.0

relative Natural Colour (NC)

lab*lab	0.952	0.041	0.999
lab*lab	0.952	0.041	0.999
lab*lab	0.952	0.041	0.999
lab*lab	0.952	0.041	0.999

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	90.36	-1.58	122.19
LAB*LABa	90.36	-1.58	122.19
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.940	-0.012	1.25
lab*lab	0.940	-0.012	1.25
lab*lab	0.940	-0.012	1.25
lab*lab	0.940	-0.012	1.25

relative Natural Colour (NC)

lab*lab	0.940	0.058	1.038
lab*lab	0.940	0.058	1.038
lab*lab	0.940	0.058	1.038
lab*lab	0.940	0.058	1.038

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	89.37	-1.86	117.06
LAB*LABa	89.37	-1.86	117.06
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.928	-0.015	1.50
lab*lab	0.928	-0.015	1.50
lab*lab	0.928	-0.015	1.50
lab*lab	0.928	-0.015	1.50

relative Natural Colour (NC)

lab*lab	0.928	0.075	1.068
lab*lab	0.928	0.075	1.068
lab*lab	0.928	0.075	1.068
lab*lab	0.928	0.075	1.068

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	88.38	-2.14	109.97
LAB*LABa	88.38	-2.14	109.97
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.916	-0.018	1.75
lab*lab	0.916	-0.018	1.75
lab*lab	0.916	-0.018	1.75
lab*lab	0.916	-0.018	1.75

relative Natural Colour (NC)

lab*lab	0.916	0.093	1.103
lab*lab	0.916	0.093	1.103
lab*lab	0.916	0.093	1.103
lab*lab	0.916	0.093	1.103

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	87.39	-2.42	102.98
LAB*LABa	87.39	-2.42	102.98
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.904	-0.021	2.00
lab*lab	0.904	-0.021	2.00
lab*lab	0.904	-0.021	2.00
lab*lab	0.904	-0.021	2.00

relative Natural Colour (NC)

lab*lab	0.904	0.110	1.138
lab*lab	0.904	0.110	1.138
lab*lab	0.904	0.110	1.138
lab*lab	0.904	0.110	1.138

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	86.40	-2.70	95.99
LAB*LABa	86.40	-2.70	95.99
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.892	-0.024	2.25
lab*lab	0.892	-0.024	2.25
lab*lab	0.892	-0.024	2.25
lab*lab	0.892	-0.024	2.25

relative Natural Colour (NC)

lab*lab	0.892	0.127	1.173
lab*lab	0.892	0.127	1.173
lab*lab	0.892	0.127	1.173
lab*lab	0.892	0.127	1.173

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	85.41	-2.98	89.00
LAB*LABa	85.41	-2.98	89.00
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.880	-0.027	2.50
lab*lab	0.880	-0.027	2.50
lab*lab	0.880	-0.027	2.50
lab*lab	0.880	-0.027	2.50

relative Natural Colour (NC)

lab*lab	0.880	0.144	1.208
lab*lab	0.880	0.144	1.208
lab*lab	0.880	0.144	1.208
lab*lab	0.880	0.144	1.208

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	84.42	-3.26	82.01
LAB*LABa	84.42	-3.26	82.01
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.868	-0.030	2.75
lab*lab	0.868	-0.030	2.75
lab*lab	0.868	-0.030	2.75
lab*lab	0.868	-0.030	2.75

relative Natural Colour (NC)

lab*lab	0.868	0.161	1.243
lab*lab	0.868	0.161	1.243
lab*lab	0.868	0.161	1.243
lab*lab	0.868	0.161	1.243

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	83.43	-3.54	75.02
LAB*LABa	83.43	-3.54	75.02
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.856	-0.033	3.00
lab*lab	0.856	-0.033	3.00
lab*lab	0.856	-0.033	3.00
lab*lab	0.856	-0.033	3.00

relative Natural Colour (NC)

lab*lab	0.856	0.178	1.278
lab*lab	0.856	0.178	1.278
lab*lab	0.856	0.178	1.278
lab*lab	0.856	0.178	1.278

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	82.44	-3.82	68.03
LAB*LABa	82.44	-3.82	68.03
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.844	-0.036	3.25
lab*lab	0.844	-0.036	3.25
lab*lab	0.844	-0.036	3.25
lab*lab	0.844	-0.036	3.25

relative Natural Colour (NC)

lab*lab	0.844	0.193	1.313
lab*lab	0.844	0.193	1.313
lab*lab	0.844	0.193	1.313
lab*lab	0.844	0.193	1.313

relative Inform. Technology (IT)

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

standard and adapted CIELAB

LAB*LAB	81.45	-4.10	61.04
LAB*LABa	81.45	-4.10	61.04
LAB*LABb	97.31	31.25	90.59

relative CIELAB lab*

lab*lab	0.832	-0.039	3.50
lab*lab	0.832	-0.039	3.50
lab*lab	0.832	-0.039	3.50
lab*lab	0.832	-0.039	3.50

relative Natural Colour (NC)

lab*lab	0.832	0.208	1.348
lab*lab	0.832	0.208	1.348
lab*lab	0.832	0.208	1.348
lab*lab	0.832	0.208	1.348

relative Inform. Technology (IT)

olvi3*	
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output: *Startup (S) data dependend*

Input: Colorimetric Reflective System NCS11

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

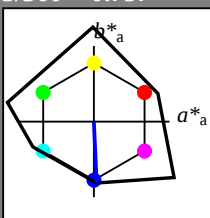
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 49 81 273

rgb*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

%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 0.0

relative CIELAB lab*
lab*lab 1.0 0.0 0.0
lab*tch 1.0 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 1.0 0.0 0.0
lab*tce 1.0 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (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 74.31 0.02 0.0
LAB*LABa 74.31 0.02 0.0
LAB*TCHa 75.0 0.01 0.0

relative CIELAB lab*
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.75 0.0 0.0
lab*tce 0.75 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.5 (0.0)
cmyn3* 0.5 0.5 0.5 (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 53.21 0.04 0.0
LAB*LABa 53.21 0.04 0.0
LAB*TCHa 50.0 0.01 0.0

relative CIELAB lab*
lab*lab 0.5 0.0 0.0
lab*tch 0.5 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.5 0.0 0.0
lab*tce 0.5 0.0 0.0
lab*nce 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*LABa 32.11 0.07 0.01
LAB*TCHa 25.0 0.01 0.0

relative CIELAB lab*
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.25 0.0 0.0
lab*tce 0.25 0.0 0.0
lab*nce 0.0 0.0 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 0.07 0.01
LAB*TCHa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

$n^* = 1.0$

relative Inform. Technology (IT)
olvi3* 0.75 0.75 1.0 (1.0)
cmyn3* 0.25 0.25 0.0 (0.0)
olvi4* 0.75 0.75 1.0 (1.0)
cmyn4* 0.25 0.25 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 83.81 0.93 -20.28
LAB*LABa 83.81 0.93 -20.28
LAB*TCHa 97.5 20.31 272.57

relative CIELAB lab*
lab*lab 0.863 0.011 -0.249
lab*tch 0.875 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.863 0.003 -0.249
lab*tce 0.875 0.25 0.752
lab*nce 0.0 0.25 0.906

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.75 (1.0)
cmyn3* 0.5 0.5 0.75 (1.0)
olvi4* 0.75 0.75 1.0 (0.0)
cmyn4* 0.25 0.25 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 62.71 0.95 -20.28
LAB*LABa 62.71 0.95 -20.28
LAB*TCHa 62.5 20.32 272.57

relative CIELAB lab*
lab*lab 0.625 0.25 0.752
lab*tch 0.625 0.25 0.752
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.613 0.003 -0.249
lab*tce 0.625 0.25 0.752
lab*nce 0.25 0.25 0.906

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.5 (1.0)
cmyn3* 0.75 0.75 0.25 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.25 0.25 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 51.11 1.87 -40.58
LAB*LABa 51.11 1.87 -40.58
LAB*TCHa 50.0 40.64 272.57

relative CIELAB lab*
lab*lab 0.363 0.034 -0.748
lab*tch 0.375 0.75 0.757
lab*nch 0.0 0.75 0.757
relative Natural Colour (NC)
lab*trj 0.338 0.009 -0.749
lab*tce 0.375 0.75 0.752
lab*nce 0.0 0.75 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.25 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 30.01 1.82 -40.58
LAB*LABa 30.01 1.82 -40.58
LAB*TCHa 25.01 40.63 272.57

relative CIELAB lab*
lab*lab 0.225 0.022 -0.498
lab*tch 0.25 0.5 0.757
lab*nch 0.0 0.5 0.757
relative Natural Colour (NC)
lab*trj 0.225 0.006 -0.499
lab*tce 0.25 0.5 0.752
lab*nce 0.0 0.5 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 20.5 0.91 -20.28
LAB*LABa 20.5 0.91 -20.28
LAB*TCHa 12.5 20.31 272.57

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*tce 0.125 0.25 0.752
lab*nce 0.0 0.25 0.906

$n^* = 0.50$

relative Inform. Technology (IT)
olvi3* 0.5 0.5 1.0 (1.0)
cmyn3* 0.5 0.5 1.0 (1.0)
olvi4* 0.5 0.5 1.0 (1.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 22.21 1.82 -40.58
LAB*LABa 22.21 1.82 -40.58
LAB*TCHa 75.0 40.63 272.57

relative CIELAB lab*
lab*lab 0.725 0.022 -0.498
lab*tch 0.75 0.5 0.757
lab*nch 0.0 0.5 0.757
relative Natural Colour (NC)
lab*trj 0.725 0.006 -0.499
lab*tce 0.75 0.5 0.752
lab*nce 0.0 0.5 0.906

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.5 (1.0)
cmyn3* 0.75 0.75 0.25 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.25 0.25 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 11.11 1.87 -40.58
LAB*LABa 11.11 1.87 -40.58
LAB*TCHa 50.0 40.64 272.57

relative CIELAB lab*
lab*lab 0.363 0.034 -0.748
lab*tch 0.375 0.75 0.757
lab*nch 0.0 0.75 0.757
relative Natural Colour (NC)
lab*trj 0.338 0.009 -0.749
lab*tce 0.375 0.75 0.752
lab*nce 0.0 0.75 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 30.01 1.82 -40.58
LAB*LABa 30.01 1.82 -40.58
LAB*TCHa 25.01 40.63 272.57

relative CIELAB lab*
lab*lab 0.225 0.022 -0.498
lab*tch 0.25 0.5 0.757
lab*nch 0.0 0.5 0.757
relative Natural Colour (NC)
lab*trj 0.225 0.006 -0.499
lab*tce 0.25 0.5 0.752
lab*nce 0.0 0.5 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 20.5 0.91 -20.28
LAB*LABa 20.5 0.91 -20.28
LAB*TCHa 12.5 20.31 272.57

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*tce 0.125 0.25 0.752
lab*nce 0.0 0.25 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 11.01 0.07 0.01
LAB*LABa 11.01 0.07 0.01
LAB*TCHa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

$n^* = 0.25$

relative Inform. Technology (IT)
olvi3* 0.25 0.25 1.0 (1.0)
cmyn3* 0.75 0.75 0.0 (0.0)
olvi4* 0.25 0.25 1.0 (1.0)
cmyn4* 0.75 0.75 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 60.61 2.77 -60.88
LAB*LABa 60.61 2.77 -60.88
LAB*TCHa 62.5 60.95 272.57

relative CIELAB lab*
lab*lab 0.589 0.034 -0.748
lab*tch 0.625 0.75 0.757
lab*nch 0.0 0.75 0.757
relative Natural Colour (NC)
lab*trj 0.589 0.009 -0.749
lab*tce 0.625 0.75 0.752
lab*nce 0.0 0.75 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 49.02 3.65 -81.18
LAB*LABa 49.02 3.65 -81.18
LAB*TCHa 50.0 81.27 272.57

relative CIELAB lab*
lab*lab 0.45 0.045 -0.998
lab*tch 0.5 1.0 0.757
lab*nch 0.0 1.0 0.757
relative Natural Colour (NC)
lab*trj 0.45 0.013 -0.999
lab*tce 0.5 1.0 0.752
lab*nce 0.0 1.0 0.906

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.5 (1.0)
cmyn3* 0.75 0.75 0.25 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.25 0.25 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 30.51 2.75 -60.87
LAB*LABa 30.51 2.75 -60.87
LAB*TCHa 37.51 60.95 272.57

relative CIELAB lab*
lab*lab 0.338 0.034 -0.748
lab*tch 0.375 0.75 0.757
lab*nch 0.0 0.75 0.757
relative Natural Colour (NC)
lab*trj 0.338 0.009 -0.749
lab*tce 0.375 0.75 0.752
lab*nce 0.0 0.75 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 30.01 1.82 -40.58
LAB*LABa 30.01 1.82 -40.58
LAB*TCHa 25.01 40.63 272.57

relative CIELAB lab*
lab*lab 0.225 0.022 -0.498
lab*tch 0.25 0.5 0.757
lab*nch 0.0 0.5 0.757
relative Natural Colour (NC)
lab*trj 0.225 0.006 -0.499
lab*tce 0.25 0.5 0.752
lab*nce 0.0 0.5 0.906

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 20.5 0.91 -20.28
LAB*LABa 20.5 0.91 -20.28
LAB*TCHa 12.5 20.31 272.57

relative CIELAB lab*
lab*lab 0.113 0.011 -0.249
lab*tch 0.125 0.25 0.757
lab*nch 0.0 0.25 0.757
relative Natural Colour (NC)
lab*trj 0.113 0.003 -0.249
lab*tce 0.125 0.25 0.752
lab*nce 0.0 0.25 0.906

$n^* = 0.125$

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.46
LAB*LABa 18.02 0.5 -0.46
LAB*TCHa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.46
LAB*LABa 18.02 0.5 -0.46
LAB*TCHa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.46
LAB*LABa 18.02 0.5 -0.46
LAB*TCHa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.46
LAB*LABa 18.02 0.5 -0.46
LAB*TCHa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 0.0 (0.0)
olvi4* 0.5 0.5 1.0 (0.0)
cmyn4* 0.5 0.5 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.46
LAB*LABa 18.02 0.5 -0.46
LAB*TCHa 0.01 0.01 0.0

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*tce 0.0 0.0 0.0
lab*nce 1.0 0.0 0.0

$n^* = 0.00$

Output: Colorimetric Reflective System MRS18

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

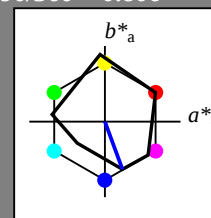
lab^*tch and lab^*nch

D65: hue B

LCH*Ma: 37 67 290

rgb*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

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

Input: Colorimetric Reflective System NCS11

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

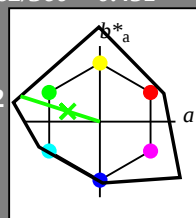
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 65 110 162

rgb*Ma: 0.08 1.0 0.0

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
G50B _{Ma}	59.47	-80.6	-33.45	87.28	203
B _{Ma}	49.01	3.65	-81.19	81.28	273
B50R _{Ma}	44.06	106.09	-73.93	129.32	325
N _{Ma}	10.99	0.0	0.0	0.0	0
W _{Ma}	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

%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*Lab 95.41 0.0 0.0
LAB*TC_{Ma} 99.99 0.01 0.0

relative CIELAB lab*
lab*lab 1.0 0.0 0.0
lab*tch 1.0 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 1.0 0.0 0.0
lab*trc 1.0 0.0 0.0
lab*ncc 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.75 0.75 0.75 (1.0)
cmyn3* 0.25 0.25 0.25 (0.0)
olvi4* 1.0 1.0 1.0 0.75
cmyn4* 0.0 0.0 0.0 0.25
standard and adapted CIELAB
LAB*LAB 74.31 0.02 0.0
LAB*Lab 74.31 0.02 0.0
LAB*TC_{Ma} 75.0 0.01 -

relative CIELAB lab*
lab*lab 0.75 0.0 0.0
lab*tch 0.75 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.75 0.0 0.0
lab*trc 0.75 0.0 0.0
lab*ncc 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.5 (0.0)
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*Lab 53.21 0.04 0.0
LAB*TC_{Ma} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.5 0.0 0.0
lab*tch 0.5 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.5 0.0 0.0
lab*trc 0.5 0.0 0.0
lab*ncc 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (0.0)
cmyn3* 0.75 0.75 0.75 (1.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 32.11 0.07 0.01
LAB*Lab 32.11 0.07 0.01
LAB*TC_{Ma} 25.0 0.01 -

relative CIELAB lab*
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.25 0.0 0.0
lab*trc 0.25 0.0 0.0
lab*ncc 0.0 0.0 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*Lab 11.01 0.07 0.01
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 0.0
cmyn4* 0.0 0.0 0.0 1.0
standard and adapted CIELAB
LAB*LAB 0.01 0.01 0.0
LAB*Lab 0.01 0.01 0.0
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.771 1.0 0.75 (1.0)
cmyn3* 0.229 0.0 0.25 (0.0)
olvi4* 0.771 1.0 0.75 (1.0)
cmyn4* 0.229 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 87.9 -26.2 8.39
LAB*Lab 87.9 -26.2 8.39
LAB*TC_{Ma} 87.5 27.54 162.25

relative CIELAB lab*
lab*lab 0.911 -0.237 0.076
lab*tch 0.875 0.25 0.451
lab*nch 0.0 0.25 0.451
relative Natural Colour (NC)
lab*trj 0.911 -0.249 0.0
lab*trc 0.875 0.25 0.3
lab*ncc 0.0 0.25 0.398

relative Inform. Technology (IT)
olvi3* 0.771 0.5 0.75 (1.0)
cmyn3* 0.229 0.5 0.25 (0.0)
olvi4* 0.771 1.0 0.75 (1.0)
cmyn4* 0.229 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 66.81 -26.19 8.4
LAB*Lab 66.81 -26.19 8.4
LAB*TC_{Ma} 62.5 27.55 162.25

relative CIELAB lab*
lab*lab 0.651 -0.237 0.076
lab*tch 0.625 0.25 0.451
lab*nch 0.0 0.25 0.451
relative Natural Colour (NC)
lab*trj 0.651 -0.249 0.0
lab*trc 0.625 0.25 0.3
lab*ncc 0.0 0.25 0.398

relative Inform. Technology (IT)
olvi3* 0.651 0.5 0.75 (1.0)
cmyn3* 0.349 0.5 0.25 (0.0)
olvi4* 0.651 1.0 0.75 (1.0)
cmyn4* 0.349 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 45.7 -26.18 8.4
LAB*Lab 45.7 -26.18 8.4
LAB*TC_{Ma} 37.5 27.55 162.25

relative CIELAB lab*
lab*lab 0.411 -0.237 0.076
lab*tch 0.375 0.25 0.451
lab*nch 0.0 0.25 0.451
relative Natural Colour (NC)
lab*trj 0.411 -0.249 0.0
lab*trc 0.375 0.25 0.3
lab*ncc 0.0 0.25 0.398

relative Inform. Technology (IT)
olvi3* 0.411 0.5 0.75 (1.0)
cmyn3* 0.589 0.5 0.25 (0.0)
olvi4* 0.411 1.0 0.75 (1.0)
cmyn4* 0.589 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 24.6 -26.23 8.38
LAB*Lab 24.6 -26.23 8.38
LAB*TC_{Ma} 12.5 27.54 162.28

relative CIELAB lab*
lab*lab 0.161 -0.237 0.076
lab*tch 0.125 0.25 0.451
lab*nch 0.0 0.25 0.451
relative Natural Colour (NC)
lab*trj 0.161 -0.249 0.0
lab*trc 0.125 0.25 0.3
lab*ncc 0.0 0.25 0.398

relative Inform. Technology (IT)
olvi3* 0.161 0.5 0.75 (1.0)
cmyn3* 0.839 0.5 0.25 (0.0)
olvi4* 0.161 1.0 0.75 (1.0)
cmyn4* 0.839 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 0.01 0.01 0.0
LAB*Lab 0.01 0.01 0.0
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

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 50.4 -52.43 16.79
LAB*Lab 50.4 -52.43 16.79
LAB*TC_{Ma} 50.0 55.09 162.25

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*trj 0.822 -0.499 0.0
lab*trc 0.75 0.5 0.3
lab*ncc 0.0 0.5 0.398

relative Inform. Technology (IT)
olvi3* 0.541 0.5 0.5 (1.0)
cmyn3* 0.459 0.5 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 29.31 -52.42 16.8
LAB*Lab 29.31 -52.42 16.8
LAB*TC_{Ma} 30.0 55.09 162.25

relative CIELAB lab*
lab*lab 0.572 -0.475 0.152
lab*tch 0.5 0.5 0.451
lab*nch 0.0 0.5 0.451
relative Natural Colour (NC)
lab*trj 0.572 -0.499 0.0
lab*trc 0.5 0.5 0.3
lab*ncc 0.0 0.5 0.398

relative Inform. Technology (IT)
olvi3* 0.291 0.75 0.25 (1.0)
cmyn3* 0.709 0.25 0.75 (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 59.31 -52.42 16.8
LAB*Lab 59.31 -52.42 16.8
LAB*TC_{Ma} 50.0 55.09 162.25

relative CIELAB lab*
lab*lab 0.572 -0.475 0.152
lab*tch 0.5 0.5 0.451
lab*nch 0.0 0.5 0.451
relative Natural Colour (NC)
lab*trj 0.572 -0.499 0.0
lab*trc 0.5 0.5 0.3
lab*ncc 0.0 0.5 0.398

relative Inform. Technology (IT)
olvi3* 0.291 0.5 0.25 (1.0)
cmyn3* 0.709 0.5 0.25 (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 38.2 -52.46 16.78
LAB*Lab 38.2 -52.46 16.78
LAB*TC_{Ma} 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 0.0 0.5 0.451
relative Natural Colour (NC)
lab*trj 0.322 -0.499 0.0
lab*trc 0.25 0.5 0.3
lab*ncc 0.0 0.5 0.398

relative Inform. Technology (IT)
olvi3* 0.161 0.5 0.75 (1.0)
cmyn3* 0.839 0.5 0.25 (0.0)
olvi4* 0.161 1.0 0.75 (1.0)
cmyn4* 0.839 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 0.01 0.01 0.0
LAB*Lab 0.01 0.01 0.0
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.312 1.0 0.25 (1.0)
cmyn3* 0.688 0.0 0.25 (0.0)
olvi4* 0.312 1.0 0.25 (1.0)
cmyn4* 0.688 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 72.9 -78.65 25.19
LAB*Lab 72.9 -78.65 25.19
LAB*TC_{Ma} 62.5 82.63 162.25

relative CIELAB lab*
lab*lab 0.733 0.713 0.229
lab*tch 0.625 0.75 0.451
lab*nch 0.0 0.75 0.451
relative Natural Colour (NC)
lab*trj 0.733 -0.749 0.0
lab*trc 0.625 0.75 0.5
lab*ncc 0.0 0.75 0.398

relative Inform. Technology (IT)
olvi3* 0.312 0.5 0.25 (1.0)
cmyn3* 0.688 0.5 0.25 (0.0)
olvi4* 0.312 1.0 0.25 (1.0)
cmyn4* 0.688 0.0 0.25 (0.0)
standard and adapted CIELAB
LAB*LAB 65.41 -104.893.58
LAB*Lab 65.41 -104.893.58
LAB*TC_{Ma} 50.0 110.17 162.26

relative CIELAB lab*
lab*lab 0.645 -0.951 0.305
lab*tch 0.5 1.0 0.451
lab*nch 0.0 1.0 0.451
relative Natural Colour (NC)
lab*trj 0.645 -0.999 0.0
lab*trc 0.5 1.0 0.3
lab*ncc 0.0 1.0 0.398

relative Inform. Technology (IT)
olvi3* 0.083 1.0 0.0 (1.0)
cmyn3* 0.917 0.0 1.0 (0.0)
olvi4* 0.083 1.0 0.0 (1.0)
cmyn4* 0.917 0.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 65.41 -104.893.58
LAB*Lab 65.41 -104.893.58
LAB*TC_{Ma} 50.0 110.17 162.26

relative CIELAB lab*
lab*lab 0.045 -0.951 0.305
lab*tch 0.5 1.0 0.451
lab*nch 0.0 1.0 0.451
relative Natural Colour (NC)
lab*trj 0.045 -0.999 0.0
lab*trc 0.5 1.0 0.3
lab*ncc 0.0 1.0 0.398

relative Inform. Technology (IT)
olvi3* 0.083 0.5 0.0 (1.0)
cmyn3* 0.917 0.5 0.0 (0.0)
olvi4* 0.083 1.0 0.0 (1.0)
cmyn4* 0.917 0.0 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 65.41 -104.893.58
LAB*Lab 65.41 -104.893.58
LAB*TC_{Ma} 50.0 110.17 162.26

relative CIELAB lab*
lab*lab 0.045 -0.951 0.305
lab*tch 0.5 1.0 0.451
lab*nch 0.0 1.0 0.451
relative Natural Colour (NC)
lab*trj 0.045 -0.999 0.0
lab*trc 0.5 1.0 0.3
lab*ncc 0.0 1.0 0.398

relative Inform. Technology (IT)
olvi3* 0.083 0.0 0.0 (1.0)
cmyn3* 0.917 0.0 0.0 (0.0)
olvi4* 0.083 1.0 0.0 (1.0)
cmyn4* 0.917 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.46
LAB*Lab 18.02 0.5 -0.46
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.5 0.5 0.5 (0.0)
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*Lab 56.71 0.23 2.14
LAB*TC_{Ma} 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.5 0.0 0.0
lab*tch 0.5 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.5 0.0 0.0
lab*trc 0.5 0.0 0.0
lab*ncc 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.25 0.25 0.25 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 37.36 0.0 0.0
LAB*Lab 37.36 0.0 0.0
LAB*TC_{Ma} 25.0 0.01 -

relative CIELAB lab*
lab*lab 0.25 0.0 0.0
lab*tch 0.25 0.0 0.0
lab*nch 0.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.25 0.0 0.0
lab*trc 0.25 0.0 0.0
lab*ncc 0.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.25 0.0 0.0 (1.0)
cmyn3* 0.75 0.75 0.75 (0.0)
olvi4* 1.0 1.0 1.0 0.25
cmyn4* 0.0 0.0 0.0 0.75
standard and adapted CIELAB
LAB*LAB 18.02 0.5 -0.46
LAB*Lab 18.02 0.5 -0.46
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 0.0
cmyn4* 0.0 0.0 0.0 1.0
standard and adapted CIELAB
LAB*LAB 0.01 0.01 0.0
LAB*Lab 0.01 0.01 0.0
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

relative Inform. Technology (IT)
olvi3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olvi4* 1.0 1.0 1.0 0.0
cmyn4* 0.0 0.0 0.0 1.0
standard and adapted CIELAB
LAB*LAB 0.01 0.01 0.0
LAB*Lab 0.01 0.01 0.0
LAB*TC_{Ma} 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 0.0
relative Natural Colour (NC)
lab*trj 0.0 0.0 0.0
lab*trc 0.0 0.0 0.0
lab*ncc 1.0 0.0 0.0

Output: Colorimetric Reflective System MRS18

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

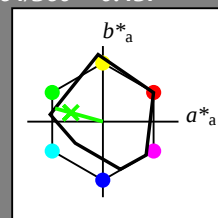
lab^*tch and lab^*nch

D65: hue G

LCH*Ma: 56 66 164

rgb*Ma: 0.1 1.0 0.0

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
G50B _{Ma}	45.03	-36.57	-28.47	46.36	218
B _{Ma}	36.65	23.19	-63.05	67.18	290
B50R _{Ma}	34.94	57.17	-44.26	72.31	322
N _{Ma}	18.01	0.0	0.0	0.0	0
W _{Ma}	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
RCIE	30.57	1.15	-46.84	46.87	27

