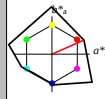


Input: Colorimetric Reflective System NCS11
for hue $h^* = lab^*h = 24/360 = 0.066$
 lab^*tch and lab^*nch

D65: hue R
LCH*Ma: 47 92 24
olw*Ma: 1.0 0.0 0.0

triangle lightness t^*



% Gamut

$u^*_{rel} = 149$

% Regularity

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

$g^*_{C,rel} = 63$

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*LABo 95.41 0.0 0.0
LAB*TCHo 99.99 0.01 -

relative CIELAB lab*
lab*lab 1.0 0.5 0.0 (1.0)
lab*tch 1.0 0.0 - (0.0)
lab*nch 1.0 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 1.0 0.0 0.0 (1.0)
lab*ncc 1.0 0.0 0.0 (1.0)
lab*nce 1.0 0.0 0.0 (1.0)

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 53.21 0.04 0.0
LAB*LABo 53.21 0.0 0.0
LAB*TCHo 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.5 0.0 0.0 (1.0)
lab*tch 0.5 0.0 - (0.0)
lab*nch 0.5 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 0.5 0.0 0.0 (1.0)
lab*ncc 0.5 0.0 0.0 (1.0)
lab*nce 0.5 0.0 0.0 (1.0)

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 11.01 0.07 0.01
LAB*LABo 11.01 0.0 0.0
LAB*TCHo 0.01 0.01 -

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 - (0.0)
lab*nch 0.0 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 0.0 0.0 0.0 (1.0)
lab*ncc 0.0 0.0 0.0 (1.0)
lab*nce 0.0 0.0 0.0 (1.0)

$n^* = 1.0$

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*LABo 71.27 42.31 18.62
LAB*TCHo 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*ncc 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 0.0 (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 23.07 42.38 18.64
LAB*LABo 29.07 42.31 18.62
LAB*TCHo 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 0.0 0.5 0.066
relative Natural Colour (NC)
lab*lrj 0.214 0.5 -0.011
lab*ncc 0.25 0.5 0.996
lab*nce 0.5 0.5 0.996

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
GMa	91.37	-1.27	125.03	125.03	91
JMa	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 0.0 0.0 (1.0)
cmyn3* 0.0 1.0 1.0 (0.0)
olvi4* 1.0 0.0 1.0 (1.0)
cmyn4* 0.0 0.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 47.15 84.68 37.26
LAB*LABo 47.15 84.63 37.24
LAB*TCHo 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*ncc 0.5 1.0 0.996
lab*nce 0.0 1.0 0.996

$n^* = 0.00$

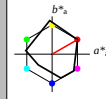
blackness n^*

chromaticness c^*

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
olw*Ma: 1.0 0.0 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*LABo 95.41 0.0 0.0
LAB*TCHo 99.99 0.01 -

relative CIELAB lab*
lab*lab 1.0 0.0 0.0 (1.0)
lab*tch 1.0 0.0 - (0.0)
lab*nch 1.0 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 1.0 0.0 0.0 (1.0)
lab*ncc 1.0 0.0 0.0 (1.0)
lab*nce 1.0 0.0 0.0 (1.0)

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 (1.0)
cmyn4* 0.0 0.0 0.0 (0.0)
standard and adapted CIELAB
LAB*LAB 56.71 -0.23 2.14
LAB*LABo 56.71 0.0 0.0
LAB*TCHo 50.0 0.01 -

relative CIELAB lab*
lab*lab 0.5 0.0 0.0 (1.0)
lab*tch 0.5 0.0 - (0.0)
lab*nch 0.5 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 0.5 0.0 0.0 (1.0)
lab*ncc 0.5 0.0 0.0 (1.0)
lab*nce 0.5 0.0 0.0 (1.0)

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

relative CIELAB lab*
lab*lab 0.0 0.0 0.0 (1.0)
lab*tch 0.0 0.0 - (0.0)
lab*nch 0.0 0.0 - (0.0)
relative Natural Colour (NC)
lab*lrj 0.0 0.0 0.0 (1.0)
lab*ncc 0.0 0.0 0.0 (1.0)
lab*nce 1.0 0.0 0.0 (1.0)

$n^* = 1.0$

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 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olvi4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 72.52 32.93 22.4
LAB*LABo 72.52 32.97 19.18
LAB*TCHo 75.0 38.58 29.82

relative CIELAB lab*
lab*lab 0.704 0.434 0.249
lab*tch 0.75 0.5 0.083
lab*nch 0.0 0.5 0.083
relative Natural Colour (NC)
lab*lrj 0.704 0.496 0.06
lab*ncc 0.75 0.5 0.019
lab*nce 0.0 0.5 0.071

relative Inform. Technology (IT)
olvi3* 0.5 0.0 0.0 (1.0)
cmyn3* 0.5 1.0 0.0 (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 33.83 33.67 19.79
LAB*LABo 33.82 33.47 19.18
LAB*TCHo 25.01 38.58 29.82

relative CIELAB lab*
lab*lab 0.204 0.434 0.249
lab*tch 0.25 0.5 0.083
lab*nch 0.0 0.5 0.083
relative Natural Colour (NC)
lab*lrj 0.204 0.496 0.06
lab*ncc 0.25 0.5 0.019
lab*nce 0.0 0.5 0.071

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 1.0 (1.0)
cmyn4* 0.0 0.0 1.0 (0.0)
standard and adapted CIELAB
LAB*LAB 49.63 66.84 40.03
LAB*LABo 49.63 66.95 38.36
LAB*TCHo 50.0 77.16 29.82

relative CIELAB lab*
lab*lab 0.409 0.867 0.497
lab*tch 0.5 1.0 0.093
lab*nch 0.0 1.0 0.083
relative Natural Colour (NC)
lab*lrj 0.409 0.993 0.119
lab*ncc 0.5 1.0 0.019
lab*nce 0.0 1.0 0.071

$n^* = 0.00$

blackness n^*

chromaticness c^*

UE180-7, 3 step scales for constant CIELAB hue 24/360 = 0.066 (left)

BAM-test chart UE18; Colorimetric systems NCS11a & MRS18 input: `cmv0* setmkycolor`
D65: 2 coordinate data of 3 step colour scales for 10 hues

3 step scales for constant CIELAB hue 30/360 = 0.083 (right)

output: `olw* setrgbcolor / w* setgray`