

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
 $g^*_{Hrel} = 41$
 $g^*_{Crel} = 52$

relative Inform. Technology (IT)
 $olv^*3 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*3 = 0.0$ 0.0 0.0 (0.0)
 $olv^*4 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*4 = 0.0$ 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*
 $lab^*lab = 1.0$ 0.5 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)
 $lab^*tce = 1.0$ 0.0 0.0 (0.0)
 $lab^*nce = 0.0$ 0.0 - (0.0)

relative Inform. Technology (IT)
 $olv^*3 = 0.5$ 0.5 0.5 (1.0)
 $cmyn^*3 = 0.5$ 0.5 0.5 (0.0)
 $olv^*4 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*4 = 0.0$ 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 50.01 -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)
 $lab^*tce = 0.5$ 0.0 0.0 (0.0)
 $lab^*nce = 0.0$ 0.0 - (0.0)

relative Inform. Technology (IT)
 $olv^*3 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*3 = 0.0$ 0.0 0.0 (0.0)
 $olv^*4 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*4 = 0.0$ 0.0 0.0 (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)
 $lab^*tce = 0.0$ 0.0 0.0 (0.0)
 $lab^*nce = 1.0$ 0.0 - (0.0)

$n^* = 1.0$

relative Inform. Technology (IT)
 $olv^*3 = 1.0$ 0.5 0.5 (1.0)
 $cmyn^*3 = 0.0$ 0.5 0.5 (0.0)
 $olv^*4 = 1.0$ 0.5 0.5 (1.0)
 $cmyn^*4 = 0.0$ 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 72.52 32.93 22.4
LAB*LABo 72.52 32.93 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
 $lab^*tce = 0.75$ 0.5 0.019
 $lab^*nce = 0.0$ 0.5 0.071

relative Inform. Technology (IT)
 $olv^*3 = 0.5$ 0.0 0.0 (1.0)
 $cmyn^*3 = 0.5$ 1.0 1.0 (0.0)
 $olv^*4 = 1.0$ 0.5 0.5 (1.0)
 $cmyn^*4 = 0.0$ 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 33.82 33.67 19.79
LAB*LABo 33.82 33.67 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
 $lab^*tce = 0.25$ 0.5 0.019
 $lab^*nce = 0.5$ 0.5 0.071

$n^* = 0.00$

blackness n^*

chromaticness c^*

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
 $g^*_{Hrel} = 46$
 $g^*_{Crel} = 65$

relative Inform. Technology (IT)
 $olv^*3 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*3 = 0.0$ 0.0 0.0 (0.0)
 $olv^*4 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*4 = 0.0$ 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*
 $lab^*lab = 1.0$ 0.0 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)
 $lab^*tce = 1.0$ 0.0 0.0 (0.0)
 $lab^*nce = 0.0$ 0.0 - (0.0)

relative Inform. Technology (IT)
 $olv^*3 = 0.5$ 0.5 0.5 (1.0)
 $cmyn^*3 = 0.5$ 0.5 0.5 (0.0)
 $olv^*4 = 1.0$ 1.0 1.0 (1.0)
 $cmyn^*4 = 0.0$ 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)
 $lab^*tce = 0.5$ 0.0 0.0 (0.0)
 $lab^*nce = 0.5$ 0.0 - (0.0)

relative Inform. Technology (IT)
 $olv^*3 = 0.0$ 0.0 0.0 (1.0)
 $cmyn^*3 = 1.0$ 1.0 1.0 (0.0)
 $olv^*4 = 0.0$ 0.0 0.0 (1.0)
 $cmyn^*4 = 0.0$ 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)
 $lab^*tce = 0.0$ 0.0 0.0 (0.0)
 $lab^*nce = 1.0$ 0.0 - (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
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
ICie	81.26	-2.9	71.56	71.62	92
BCie	52.23	-42.45	13.59	44.59	162
GCie	30.57	1.35	-46.48	46.51	272

relative Inform. Technology (IT)
 $olv^*3 = 1.0$ 0.5 0.5 (1.0)
 $cmyn^*3 = 0.0$ 0.5 0.5 (0.0)
 $olv^*4 = 1.0$ 0.5 0.5 (1.0)
 $cmyn^*4 = 0.0$ 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
 $lab^*tce = 0.75$ 0.5 0.996
 $lab^*nce = 0.0$ 0.5 0.998

relative Inform. Technology (IT)
 $olv^*3 = 0.5$ 0.0 0.0 (1.0)
 $cmyn^*3 = 0.5$ 1.0 1.0 (0.0)
 $olv^*4 = 1.0$ 0.5 0.5 (1.0)
 $cmyn^*4 = 0.0$ 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 29.07 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
 $lab^*tce = 0.25$ 0.5 0.996
 $lab^*nce = 0.5$ 0.5 0.998

$n^* = 0.00$

blackness n^*

chromaticness c^*