

Input: Colorimetric Reflective System ORS18

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



D65: hue O
LCH*Ma: 48 83 38
olv*Ma: 1.0 0.0 0.0
triangle lightness t^*

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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
lab*tch 1.0 0.0 -
lab*nch 1.0 0.0 -
relative Natural Colour (NC)
lab*lrj 1.0 0.0 0.0
lab*nce 1.0 0.0 0.0
lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 (0.0)
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
lab*tch 0.5 0.0 0.0
lab*nch 0.5 0.0 -
relative Natural Colour (NC)
lab*lrj 0.5 0.0 0.0
lab*nce 0.5 0.0 0.0
lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (0.0)
cmyn4* 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
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 -
relative Natural Colour (NC)
lab*lrj 0.0 0.0 0.0
lab*nce 0.0 0.0 0.0
lab*nce 1.0 0.0 -

$n^* = 1.0$

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 71.67 32.15 28.41
LAB*LABo 71.67 32.15 28.41
LAB*TCHo 75.0 41.3 37.7

relative CIELAB lab*
lab*lab 0.693 0.396 0.306
lab*tch 0.75 0.5 0.105
lab*nch 0.0 0.5 0.105
relative Natural Colour (NC)
lab*lrj 0.693 0.477 0.15
lab*nce 0.75 0.5 0.048
lab*nce 0.0 0.5 r19j

relative Inform. Technology (IT)
olv3* 0.5 0.0 0.0 (1.0)
cmyn3* 0.5 0.0 0.0 (0.0)
olv4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 32.98 32.9 25.8
LAB*LABo 32.98 32.98 25.25
LAB*TCHo 25.01 41.3 37.7

relative CIELAB lab*
lab*lab 0.193 0.396 0.306
lab*tch 0.25 0.5 0.105
lab*nch 0.5 1.0 0.105
relative Natural Colour (NC)
lab*lrj 0.193 0.477 0.15
lab*nce 0.25 0.5 0.048
lab*nce 0.5 0.5 r19j

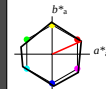
$n^* = 0.00$
blackness n^*

$n^* = 0.50$
chromaticness c^*

ORS18; adapted (a) CIELAB data					
$L^* = L_a$	a^*a	b^*a	C^*_{ab}	h^*_{ab}	
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
YMa	50.9	-62.79	34.95	71.87	151
CMa	58.62	-30.35	-45.01	54.3	236
VMa	25.71	31.11	-44.42	54.24	305
MMa	48.13	75.27	-8.35	75.73	354
NMa	18.01	0.0	0.0	0.0	0
WMa	95.41	0.0	0.0	0.0	0
RCIE	39.92	58.66	26.98	64.56	25
ICIE	81.26	-2.17	67.76	67.79	92
GCIE	52.23	-42.26	11.75	43.87	164
BCIE	30.57	1.15	-46.84	46.87	271

Output: Colorimetric Reflective System NRS11

for hue $h^* = lab^*h = 24/360 = 0.067$
 lab^*tch and lab^*nch



D65: hue R
LCH*Ma: 53 84 24
olv*Ma: 1.0 0.0 0.0
triangle lightness t^*

relative Inform. Technology (IT)
olv3* 1.0 1.0 1.0 (1.0)
cmyn3* 0.0 0.0 0.0 (0.0)
olv4* 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 0.0 0.0
lab*tch 1.0 0.0 -
lab*nch 1.0 0.0 -
relative Natural Colour (NC)
lab*lrj 1.0 0.0 0.0
lab*nce 1.0 0.0 0.0
lab*nce 0.0 0.0 -

relative Inform. Technology (IT)
olv3* 0.5 0.5 0.5 (1.0)
cmyn3* 0.5 0.5 0.5 (0.0)
olv4* 1.0 1.0 1.0 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 53.21 0.0 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
lab*tch 0.5 0.0 0.0
lab*nch 0.5 0.0 -
relative Natural Colour (NC)
lab*lrj 0.5 0.0 0.0
lab*nce 0.5 0.0 0.0
lab*nce 0.5 0.0 -

relative Inform. Technology (IT)
olv3* 0.0 0.0 0.0 (1.0)
cmyn3* 1.0 1.0 1.0 (0.0)
olv4* 1.0 1.0 1.0 (0.0)
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
lab*tch 0.0 0.0 0.0
lab*nch 1.0 0.0 -
relative Natural Colour (NC)
lab*lrj 0.0 0.0 0.0
lab*nce 0.0 0.0 0.0
lab*nce 1.0 0.0 -

$n^* = 1.0$

NRS11; adapted (a) CIELAB data

$L^* = L_a$ a^*a b^*a C^*_{ab} h^*_{ab}

RMa	53.2	77.06	34.32	84.36	24
YMa	53.2	-1.51	84.38	84.39	91
YMa	53.2	-82.27	18.98	84.44	167
G50BMa	53.2	-77.72	-32.98	84.44	203
NMa	53.2	4.37	-84.28	84.41	273
B50RMa	53.2	69.09	-48.41	84.37	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
GCIE	52.23	-42.45	13.59	44.59	162
BCIE	30.57	1.35	-46.48	46.51	272

$u^*_{rel} = 119$
 $g^*_{rel} = 47$
 $g^*_{rel} = 100$

relative Inform. Technology (IT)
olv3* 1.0 0.5 0.5 (1.0)
cmyn3* 0.0 0.5 0.5 (0.0)
olv4* 1.0 0.5 0.5 (1.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 74.3 38.55 17.16
LAB*LABo 74.3 38.55 17.16
LAB*TCHo 75.0 42.17 24.01

relative CIELAB lab*
lab*lab 0.75 0.457 0.203
lab*tch 0.75 0.5 0.067
lab*nch 0.0 0.5 0.067
relative Natural Colour (NC)
lab*lrj 0.75 0.5 -0.009
lab*nce 0.75 0.5 0.997
lab*nce 0.0 0.5 0.998

relative Inform. Technology (IT)
olv3* 0.5 0.0 0.0 (1.0)
cmyn3* 0.5 0.0 0.0 (0.0)
olv4* 1.0 0.5 0.5 (0.0)
cmyn4* 0.0 0.5 0.5 (0.0)
standard and adapted CIELAB
LAB*LAB 32.1 38.58 17.16
LAB*LABo 32.1 38.52 17.16
LAB*TCHo 25.01 42.17 24.01

relative CIELAB lab*
lab*lab 0.5 0.913 0.407
lab*tch 0.5 1.0 0.067
lab*nch 0.0 0.5 0.067
relative Natural Colour (NC)
lab*lrj 0.5 1.0 -0.019
lab*nce 0.5 1.0 0.997
lab*nce 0.0 1.0 0.998

$n^* = 0.00$
blackness n^*

$n^* = 0.50$
chromaticness c^*

relative Inform. Technology (IT)
olv3* 0.25 0.457 0.203
lab*tch 0.25 0.5 0.067
lab*nch 0.0 0.5 0.067
relative Natural Colour (NC)
lab*lrj 0.25 0.5 -0.009
lab*nce 0.25 0.5 0.997
lab*nce 0.0 0.5 0.998