

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^*

ORS18; adapted (a) CIELAB data

	$L^* = L_a^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
OMa	47.94	65.37	50.52	82.62	38
YMa	90.37	-10.27	91.77	92.34	96
LMa	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
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)

olv3*	1.0	1.0	1.0	(1.0)
cmyn3*	0.0	0.5	0.5	(0.0)
olv4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.5	0.5	(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	0.5	0.5	(1.0)
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*tce	1.0	0.0	0.0	
lab*nce	0.0	0.5	0.5	(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	(1.0)
cmyn4*	0.0	0.5	0.5	(0.0)
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 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	(1.0)
cmyn4*	0.0	0.5	0.5	(0.0)
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 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	(1.0)
cmyn4*	0.0	0.5	0.5	(0.0)
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 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	(1.0)
cmyn4*	0.0	0.5	0.5	(0.0)
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 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	(1.0)
cmyn4*	0.0	0.5	0.5	(0.0)
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 Inform. Technology (IT)

olv3*	1.0	0.5	0.5	(1.0)
cmyn3*	0.0	0.5	0.5	(0.0)
olv4*	1.0	1.0	1.0	(1.0)
cmyn4*	0.0	0.5	0.5	(0.0)
standard and adapted CIELAB				
LAB*LAB	71.67	32.15	28.41	
LAB*LABa	71.67	32.68	25.25	
LAB*TCHa	75.0	41.3	37.7	

relative Inform. Technology (IT)

olv3*	1.0	0.0	0.0	(1.0)
cmyn3*	0.0	1.0	1.0	(0.0)
olv4*	1.0	0.0	0.0	(1.0)
cmyn4*	0.0	1.0	1.0	(0.0)
standard and adapted CIELAB				
LAB*LAB	47.95	65.29	52.06	
LAB*LABa	47.95	65.36	50.51	
LAB*TCHa	50.0	82.6	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

relative Inform. Technology (IT)

olv3*	1.0	0.0	0.0	(1.0)
cmyn3*	0.0	1.0	1.0	(0.0)
olv4*	1.0	0.0	0.0	(1.0)
cmyn4*	0.0	1.0	1.0	(0.0)
standard and adapted CIELAB				
LAB*LAB	47.95	65.29	52.06	
LAB*LABa	47.95	65.36	50.51	
LAB*TCHa	50.0	82.6	37.7	

relative Inform. Technology (IT)

olv3*	1.0	0.0	0.0	(1.0)
cmyn3*	0.0	1.0	1.0	(0.0)
olv4*	1.0	0.0	0.0	(1.0)
cmyn4*	0.0	1.0	1.0	(0.0)
standard and adapted CIELAB				
LAB*LAB	47.95	65.29	52.06	
LAB*LABa	47.95	65.36	50.51	
LAB*TCHa	50.0	82.6	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	32.98	32.9	25.8	
LAB*LABa	32.98	32.68	25.25	
LAB*TCHa	25.01	41.3	37.7	

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^*

NRS11; adapted (a) CIELAB data

	$L^* = L_a^*$	a^*	b^*	C^*_{ab}	h^*_{ab}
RMa	53.2	77.06	34.32	84.36	24
YMa	53.2	-1.51	84.38	84.39	91
JMa	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
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)

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*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	1.0	0.0	-	
relative Natural Colour (NC)				
lab*lrj	1.0	0.0	0.0	
lab*tce	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	(1.0)
cmyn4*	0.0	0.5	0.5	(0.0)
standard and adapted CIELAB				
LAB*LAB	53.21	0.04	0.0	
LAB*LABa	53.21	0.0	0.0	
LAB*TCHa	50.0	0.0	-	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	53.21	0.04	0.0	
LAB*LABa	53.21	0.0	0.0	
LAB*TCHa	50.0	0.0	-	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	53.21	0.04	0.0	
LAB*LABa	53.21	0.0	0.0	
LAB*TCHa	50.0	0.0	-	

relative Inform. Technology (IT)

olv3*	0.5	0.0	0.0	(1.0)
cmyn3*	0.5	1.0	1.0	(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	53.21	0.04	0.0	
LAB*LABa	53.21	0.0	0.0	
LAB*TCHa	50.0	0.0	-	

$n^* = 1,0$	
3 step scales for constant CI	
& NRS11	input: <i>olv</i>
hues	output: <i>ob</i>